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# THE AMERICAN FARMER.

"O FORTUNATOS NIMIUM SUA SI BONA NORINT  
"AGRICOLAS." . . . . Virg.

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VOL. VI.—No. 2.]

FEBRUARY, 1877.

[NEW SERIES.]

## The Farmers' Convention of Montgomery County, Md.

This meeting was held on the 11th ultimo, in the Lyceum at Sandy Spring, and besides being more than ordinarily well attended, its discussions were more lively and interesting than those perhaps of any previous one. One result of this assembling of farmers to take counsel together was the greater readiness with which its members responded to the invitations of the presiding officer to give in their experience. Persons who responded with evident reluctance in some of the earlier meetings were now found prompt to speak of the things they knew,—doubtless feeling assured by the fact that all present were friends striving only for the common good. The spirit of good-natured rivalry between the clubs represented in the Convention is somewhat apparent in the abstracts read of their proceedings.

Mr. Henry C. Hallowell was chairman of the Convention, and Mr. Granville Farquhar, secretary. In calling the meeting to order, Mr. Hallowell, remarking that the Centennial Year, (to the doings and celebrations of which we looked with so much pleasurable anxiety when we last met here, just at its threshold,) had gone, and that nothing in the great Exposition in a neighboring State, which celebrated its coming, impressed him more than the Agricultural Department, said that, notwithstanding this, as much was to be accomplished as had already been done. It is for us to do our part, that the next hundred years will find the progress then made is not less than the last century saw; and it is for us also to see, so far as we can contribute to that desired end, that industry shall not be overworked; economy not permitted to become parsimony; that farmers shall learn not only to save, but also to *spend* wisely and profitably.

Farmers, as a class, seem, he said, to think that not much responsibility rests on them, and not seldom they become dissatisfied with their condition and calling. They reminded him of the fable of the Discontented Pendulum. The pendulum grew tired of its monotonous work of slowly swinging to and fro, and concluded one

night it would stop. As a result, the next morning everything was belated and in confusion. The maids were behind with the breakfast, the stock was not fed, and everything was disordered. The farmer soon found the cause of so unusual a circumstance, and the pendulum endeavored to excuse its conduct by the story of its discontent. The hands, it said, were ever on the move; the figures on the dial saw everything going on, but the best he could do was only to catch a glimpse of the world out of the little hole in his dark box in which he hung, and he was so tired, for his part, he concluded to stop. But, said the farmer, see how, in stopping, you have brought everything else to a stand-still!

So it is with the farmers; upon their keeping at work in their accustomed way, everything else depends. The busy multitudes of the cities—commerce—manufactures—all finally depend on them.

How important, then, that they should resolve to avail of the opportunities of improving themselves in their vocation! It is in this way that these meetings do a large and important part in keeping up an interest in agriculture as an art.

Abstracts of the year's proceedings of the Farmers', the Enterprise, and the Montgomery County Clubs, and the Dairymen's Association, were then read. These papers will be found annexed to this report.

Mr. James S. Hallowell read an essay on the best mode of increasing the quality of home-made manure, which we also give on another page.

Mr. Wm. S. Bond, a manufacturer of fertilizers near Sandy Spring, gave some statistics of his trade in superphosphates, ground bones, &c. Beginning in 1863 with sales amounting to only \$651, they had reached in 1867, \$13,000; in 1871, \$32,000; in 1873, \$45,000; and in 1876, \$42,000; aggregating in the fourteen years about \$330,000. In this period the highest price at which bone-dust sold was \$70 per ton; and IXL, of which Peruvian Guano constitutes one-third, \$75 per ton. The most gratifying part of this exhibit was the statement that, of this business, almost all done on credit, the amount of bad debts incurred reached the very small sum of \$228. This is a very gratifying evidence as well of the solvency as of the honesty of the farmers in the neighborhood who comprise his customers.



Mr. Jas. S. Hallowell called attention to the obstructions in the way of farmers retailing their products, especially fresh meats, in the Washington markets, and after some desultory discussion in the convention as to their rights in the premises, that gentleman was made a committee of one to examine into the law bearing on the subject, and to report at the next convention, or earlier, through the county papers.

The chairman submitted some samples of wool from Leicester and Cotswold sheep and lambs, belonging to Mr. Thos. J. Lea, of great beauty and fineness of staple.

An article from an agricultural journal was read on the subject of the grub in the heads of sheep, which was said to cause considerable mortality in cold weather. A number of persons reported sundry cases of late of sickness and death, supposed from the above cause. Mr. Wm. J. Schofield recommended tar, and Mr. Asa Stabler said tar was good both in summer and winter, and that pine boughs for the sheep to browse on helped their health. Mr. Mackall had found neither tar, lime, nor Scotch snuff, did his sheep any good. Salt blown into their nostrils had cured them by dislodging the grub.

T. J. Lea said when he kept his sheep in a close warm stable and gave them extra care, he had "poor luck;" but now that he keeps them in an open fodder-shed he finds they are much more robust and healthy.

E. J. Hall finds they do better in a stable, warm, but well ventilated, than when exposed. His are turned out every day except in bad weather.

H. S. Hallowell hardly knows what it is for one of his sheep to be sick. They are put up every night, winter and summer.

#### **Should Grass Fields be left more than Two Years in Sod?**

Wm. H. Farquhar said Isaac Hartshorn had had a field in sod fifteen years, doubtless to his profit; but he believed in general it would pay better not to lie over two years, and that plowing then was better for the land, and the weeds were better gotten rid of.

B. D. Palmer had a field seven years in sod, top-dressed twice. It was not in the end profitable. Better plow while the sod is thick. It keeps the land in better condition.

Wm. John Thomas thinks the land does not improve. The grass may pay to keep in sod, and the ground is best cleaned by cutting. He plows about once in five years. Where the amelioration of the soil is the object, the sod should be plowed under before the grass runs out too much. When there is little grass above there are few roots below the surface, and these, it is well known, are what are at the base of improvement.

Fred. Stabler lets stand five years. Is opposed to plowing too often, especially on hill-sides. He mows and then pastures.

T. J. Lea keeps his land in grass to get rid of hog thistle; and would have to move if he plowed often.

Claggett Holland plows land being improved every three years; but land already in good condition would be better left five years in sod.

Dr. Francis Thomas favored frequent plowing, and Asa Stabler thought circumstances would be found to alter cases. Land should not remain over two years in sod, unless very rich or hilly. For profit and improvement plow under good fresh sods, and you will get more benefit than leaving them longer.

Lewis H. Duvall leaves his sods three years, (mows two years and pastures one,) then plows the sod for corn. Always limes the sod. Is satisfied lime is good *anywhere*.

Sam'l Hopkins, of Howard, plows every four years, but good strong land would let lie longer. Wm. H. Farquhar said he concluded that good rich land might be profitably left in sod, but that to improve the soil it should be plowed when there are plenty of roots in the ground to furnish plant-food.

#### **What Sized Farm Justifies Keeping Oxen?**

Hy. C. Hallowell said he didn't want any more oxen. His first act as a farmer was to buy a yoke, and he had oxen ever since till last summer, when one died, and, not replacing the yoke, he has been surprised ever since that he had so long kept them on his place.

R. B. Farquhar thought where the farm is more than large enough to keep two horses, one had better keep a yoke of oxen. He would not like to exchange his for horses. Besides, there are other advantages; when you are done with them, unlike horses, you can fatten and sell them to the butcher.

Dr. Francis Thomas believed oxen belonged to a past agricultural era. When you owned your own labor and raised your own oxen it might be profitable. He has cleared as much land, gone as often to market in Washington, as any farmer of his age, and changed his horses as seldom, but he has little use for oxen. Emergencies may require their use, but for general farm work horses are to be preferred. As to fattening oxen off, it is well known ox beef does not sell as well as steer beef.

#### **In This Section Does it Pay to Raise Roots for Stock?**

Wm. J. Schofield said he had little experience. He had tried the common purple-top turnip, but to no advantage so far as the flow and richness of the milk was concerned. The same was true of beets. Parsnips did somewhat better. There is nothing so good for dairy stock as corn and mill feed. Referred to the subject in its aspect as regards profit—not to the health-giving or preserving qualities of roots.

Wm. Jno. Thomas says in America the abundance and cheapness of corn obviates the use of roots.

Wm. H. Farquhar, after twenty years experience, thinks roots are almost indispensable. They were never meant to supplant grain, but are of the highest value in their place. He refers to sugar-beets.

Chas. F. Kirk did not think turnips paid for milk cows, but always liked to raise a few for ewes, as they were good for promoting the flow of milk.

B. H. Miller said his experience was opposed to that of most of the others. Turnips will pay to feed in late winter and early spring. He gives one peck of them to each cow, and it helps their appetites and keeps them in good



condition; considers them of the greatest value to dairymen, and never had any trouble with their flavor in the butter.

E. J. Hall said they were certainly very healthy for sheep, and Chas. Abert said he had a yoke of oxen, which were slower but steadier than horses, and one season of pretty hard and constant work they were fed on nothing but turnips.

#### When Should We Plow for Corn?

Henry C. Hallowell—It was thought formerly to be a test of a good farmer to have a good deal of his plowing done in the fall. Latterly some seem inclined to doubt its advantages.

Wm. Jno. Thomas remembers that in his early days everybody plowed in fall, and knows of cases where the crops were lost from spring plowing; but it depends very much on the season. A dry, windy winter compacts and hardens the surface, so that it needs shoveling over in the spring.

R. B. Farquhar approves of spring plowing on light lands like his, but is doubtful about stiff clays. Plowed last year some in winter and some in spring, and the latter did best. The light soils have too much of their fertility washed out and evaporated by lying bare all winter.

B. Rush Roberts was very clear that heavy soils are better disintegrated by fall plowing.

Robt. Stabler is satisfied spring plowing is best for light lands. High winds made winter-plowed ground as hard as a brick. The only advantages of fall plowing are the destruction of cut worms and the getting of work ahead.

#### What is the Best Method of Working Corn?

There was not a very animated debate on this topic. Wm. Jno. Thomas thought when the land was well plowed in spring, that was the best working the corn got, and James S. Hallowell said any working which destroys the weeds and grass and mellow the ground, will be profitable to the corn. He gave the results of an experiment with two rows of cabbages, one of which was kept well hoed, while the other was regularly watered and occasionally worked. The growth of the first row far surpassed the latter.

#### Does the Profit on Sheep and Hogs Pay for the Increased Cost of Fencing Required?

T. J. Lea said he found a four-rail fence sufficient for sheep and hogs, and Jas. S. Hallowell thought those animals the most profitable on the farm. Dr. Hardy, of Howard, doubted whether sheep are profitable to small farmers, as they are most destructive to grass lands; but Mr. J. S. Hallowell responded that they cleaned out the fence corners and cut the weeds. The sod must be good, otherwise they will eat the grass too close. A vote being taken, it was found very decidedly in the affirmative.

#### Considering the Heavy First-cost, does it Pay to Keep Thoroughbred Stock?

A difference arose in the discussion of this topic as to the real meaning of the proposition. It was admitted on every side that there was no gain-saying the advantage of improving ordinary stock of any kind by the use of thoroughbred males, but some doubts were suggested as to the profit in keeping for ordinary purposes, either for the dairy, for wool, or for the shambles, pure bred stock—its prime cost, greater liability, according

to some, to disease, involving a considerable element of risk; and the question, having been submitted to a vote, was decided *adversely* to pure stock.

Thos. J. Lea, who butchers as well as farms, said the most money he pays for calves is for those gotten by thoroughbred sires. It will pay a man who has only 25 common ewes to buy a good buck to put with them.

Asa Stabler thought for farmers, as a rule, it did not pay to buy pure stock at fancy prices; and Wm. Hy. Farquhar thought it would not pay a farmer to sell his old stock and buy thoroughbreds, but that a pure bred male for crossing pays cannot be doubted.

B. H. Miller thought a herd of three-quarter bred Jerseys were better for dairymen than the thoroughbreds, showing more hardiness. Sam'l Hopkins argued that if it was admitted that a cross by thoroughbred males was profitable it followed that the higher the grade, and consequently up to the thoroughbred themselves were so likewise; but Mr. Edward Gilpin thought half-breeds were far more hearty than thoroughbreds.

#### Are Horses or Mules Best for Farm Work?

A considerable difference of view was evoked in considering this subject, as to the desirable and undesirable traits of mules. By some they were thought to be unreliable, if not treacherous. Others believed if raised at home, and as carefully broken as a horse, he would be free from the disposition so often shown to use his heels.—Mr. Jas. S. Hallowell paid a tribute to the mule, and said he was not understood, and, perhaps, not appreciated. He was a very *timid* animal, and it was this timidity made him liable to kick when strangers approached him; did not consider it a vice.

Submitted to a vote, the mules had a majority.

#### Summary of Proceedings of the Farmers' Club of Montgomery Co.

The average attendance was 13 5-6 members at each meeting; that is, only 2 1-6 members on an average out of the 16 were absent from the meetings.

The favorite subject for observation in the inspection of the farms is the condition of the stock. This is usually described as being "fine." As a specimen, I must quote from the record. "We passed through the cow-pen, where ample provision had been made for watering the stock, into a field that afforded abundant pasture for a lot of fine fat steers, some cows and calves, and about 50 sheep; the fat cattle were the admiration of all, and the secretary *pro tem* would here say, we old farmers do not mind being beaten in writing minutes by our highly educated members, but when it comes to handling stock, to be badly beaten by an ex-teacher is pretty hard."

Our members (like most other substantial farmers, shall I say?) seem to give more attention to cattle than to horses, but observe how tenderly our secretary speaks of them both in describing a recent visit to one of our members, who will yet farm a plantation if the scripture phrase is fulfilled in him, that "he who is faithful over a few things shall be made ruler over many." "Traversing through snow and rain we soon reached very comfortable quarters in the



barn, where we were kindly welcomed by a perfectly happy and contented set of horses and cows, who may have supposed their kind owner had brought us there to assist him in feeding them—not that they looked as though they ever *scanted* anything to eat, but simply because they are doubtless *always fed* whenever our host appears among them. The arrangements for feeding, with the view of saving labor and preventing waste, are nearly perfect; for our host is a firm believer in the doctrine, that the *best* way is the most *economical* way in caring for all animals."

The Alderney cattle appear to maintain the favor, and to have increased it, of all engaged to any extent in the dairy business.

The question, whether it is profitable here to raise calves, was discussed with some interest, and a decided majority were found to take the affirmative. In regard to the proper bit for colts, ten members prefer the stiff bit,—two the snaffle. Whether to break them at three or four years, fourteen say the former and two the latter. Eight of the members (just one-half) keep sheep.

In regard to farm implements, the right length of cultivator teeth is said to be 9 inches. A new wheat drill, "The Farmer's Favorite," is stated to stand trial favorably. The "Crawford Mower" was tested with favorable results. Complaint is occasionally made that some *will* leave their implements exposed to the weather.

As to manures and tillage, I find our farmers differ not only from one another, but from their own selves; but nearly all are opposed to plowing under green crops. They say, "you can do better with a crop of clover than to bury it." In the way of planting corn there is an increasing tendency to favor step-corn in place of the checker, also to put three grains in a hill instead of two (that is, in strong ground.) A small majority still stick to the old customs. About one-half the members prefer Boughton wheat and the other half Fultz; a number sow both. There is a growing notion that, except for saving time, spring plowing for corn is preferable to fall plowing. Drilling in oats is recommended. Only two out of twelve consider it would be profitable to keep a permanent pasture. Seven members would put their manure on the wheat and five on the sod. The report of the crops of the club is as follows:

300 acres in corn, average 8½ barrels per acre.  
280 acres in wheat, average 23½ bushels per acre.  
No. of hogs 128, average weight 210 lbs.

WM. HY. FARQUHAR, Secretary.

#### Enterprise Club of Montgomery County.

Early in March is considered the proper time to sow clover seed—1 bushel to 6 acres.

The idea of putting felt under weatherboards, in building, was suggested and highly favored.

Orchard grass is recommended for pasture by a number who have had experience.

The question, "does it do hogs any good to root?" was discussed to the hog's disadvantage. It is an old saying, "a happy pig curls his tail," but there is no proverb to substantiate the idea that he is not happy when he is not rooting; and judging from my own standpoint, I should conclude the less labor he had to perform to

acquire his daily rations the happier he would be, consequently more easily made fat.

The Keller wheat and guano drill preferred by a large majority to any other. Frederick Stabler reports an experiment with broadcast and drilled wheat, the latter having much the advantage at harvest time, all other conditions being similar.

A paragraph in one of the minutes merits especial reflection from us all. The corn-field was infested with that increasing pest—Canada Thistle. (This was corrected in the Convention to read Hog Thistle.)

A member sowed rye in corn stubble in the fall on 10 acres; pastured all his stock, consisting of cows and horses, from April 10th for 6 weeks.

Best time to sow wheat Oct. 1st to 10th. *Died*, suddenly, by dogs, 9 sheep on the farm of R. B. Farquhar. *Annapolis papers please copy!*

Gifford's swinging stanchions are being used to some extent, and are liked by those who use them.

22 cents per brl. average price paid for husking corn last fall. At one farm we amused ourselves guessing the weight of a fine yoke of steers, being fattened for the butcher; the estimates ran from 3,500 lbs. to 4,000 lbs. These steers have been excellent work oxen, and have twice carried off the first premium at the State Fair.

By the following crop and other reports I have endeavored to show what the Enterprise Club is doing, besides talking, and how they are trying to make a living out of the soil. It is to be hoped these statistics may do some good as an incentive to others.

A striking feature in these reports is the varied branches of husbandry our farmers are engaged in, thereby guarding themselves against the capricious fluctuation in the markets, and also providing for a small but constant supply of small change to furnish groceries, &c., for their families.

The Enterprise Club consists of 16 members, all married except two, and they, doubtless, soon will be, if the sleighing continues! Some of the reports are not full, owing to the short time given me to obtain them, but when not full the number of members reporting is stated.

No. Acres.	Kind Crop.	No.	Total Produced.	Average per acre.	Largest average.
216	Wheat.	16	6,711 bus.	21.03	29½
270	Corn.	16	2,622 bbls.	1.08	9.03
51	Oats.	10	1,544 bus.	50.77	28
20½	Potatoes.	11	1,885 bus.	82.68	170
18	Rye.	3	340 bus.	18.88	30
398	Hay.	15	448 tons.	1.13	1.60
238	Hogs.	15	33,777 lbs.	144.99	228

9 members report 12,746 lbs. butter.

1 member reports 1,300 gals. cream, at \$1.00.

5 members report 1,259½ bxs. peaches, sold for \$1,400.91.

7 members report 332 head sheep.

16 members report 1,881 acres under cultivation—an average of 117 9-16 acres to each farm; largest farm 201 acres.

15 members report 113 tons fertilizer used in 1876. Average cash price paid monthly hands, \$12.94.

A member reports two Poland-China pigs, 290 days old, which dressed 622 pounds; they



gained in weight  $1\frac{1}{2}$  pounds apiece per day for 89 consecutive days.

The premium for the best 5 acres of wheat, offered by the Montgomery Co. Agricultural Society, was awarded to a member of the Enterprise Club. For a full account thereof see January No. of the *American Farmer*.

Besides the items included in this report there was on nearly every farm a considerable amount of small things sold which I did not have time to collate, but which are worthy of mention. Such as skim-milk and buttermilk, small fruits, poultry and eggs, cider, vinegar, and small pigs, &c. For instance, one member reports selling 100 dollars worth poultry products, several have sold from 50 to 100 dollars worth pigs, &c. T. B. Lea reports selling 775 dollars worth of pigs and sows, mostly thoroughbred Berkshires. He also says he has retailed from his wagons 67,150 lbs. beef and mutton.

EDWARD P. THOMAS, *Secretary*.

#### The Montgomery Farmers' Club.

During the year 1876 the monthly meetings and discussions of the so-called "Boys" or "Baby Club," have been characterized by an unabated if not increased zest, proving that the members maintain an unflagging interest in their noble calling, and a pluck and determination not to yield to the many difficulties now militating against agricultural success. That is in the highest degree gratifying. The chief cause for regret is the unusual number of failures on the part of the appointed essayists to perform their allotted duties—a failure probably to be attributed in part to the President having insisted for many successive meetings on having an essay prepared on the subject of "Lime as a Fertilizer," a subject so comprehensive, and yet so intricate, as to apparently appal the hearts of the readiest writers among us. Lime has elicited much thought and discussion in the club; and its application as a fertilizer, though not a novelty, has been largely and more generally increased.

In the past season, some attention was given to growing and plowing under such green crops as sapling-clover, field-peas, &c.; but the results cannot be definitely ascertained before another season.

In the regular critical inspections, it cannot fail to be seen that the members are energetically improving their farms, bringing their lands to a higher state of cultivation, and showing their determination to be in readiness to reap the first and greatest benefits from the "good time coming," which most of us hope is not very far in the future. Much attention to fruit-growing is shown by the extensive plantations of apple and peach trees recently made.

Of the improvements of the year, two are especially worthy of note: Dr. Francis Thomas has increased the convenience and value of his farm, by the erection of one of the largest and best-appointed stock-barns in the county.

Another member, yet more aspiring, has had the pluck and enterprise to take to himself a wife; thereby affording a proof, in these stringent times, of faith in future success that has not been evinced during the year by any bachelor member of even *The "Enterprise" Club*.

Three of the members, who had become so superannuated as to feel unable to go out of nights, have been allowed to retire; and the places of two of them have been filled by the election of enthusiastic youths, who had but recently begun on their own responsibility to farm out a living, "Frae 'mid the scented field." The other vacancy yet remains—thus leaving the club with a membership of fifteen, which is one less than the constitutional maximum.

Of the crops of the past year, the yield of wheat was generally good; that of corn, oats and potatoes, was injured by the drought; first crop, (on new sod) hay very good, while that mown from sod one or more years old was short.

Dairying seems to retain its place in the affections of the club; and Alderneys are still the pets.

During the continuance of the Centennial Exposition, some of our members shipped their butter regularly to Philadelphia, where it realized 55 cents per pound.

As an illustration of one of the ways in which farmers are hampered by arbitrary usage when trying to obtain the full value of their produce, the following extract from the minutes of the last meeting of the Montgomery Farmers' Club may be instructive: Question 8d. Have farmers the right to retail pork in the Washington market? In reply to this it was stated that farmers are not permitted to do so; but a committee appointed by Olney Grange, No. 7, to investigate the matter, had reported that there was no statute to prevent them.

In connection with this statement, Dr. Thomas read an itemized statement of an experiment he had made in selling two lots of pork of equal weights, showing that from the lot sold by retail he realized a profit of 78 per cent over the lot sold by the "whole hog." (It might be well to state that farmers, while not permitted to retail pork at the Washington market, are not allowed to sell meat there wholesale, without payment of an extra fee for the privilege.)

In the minutes of the same meeting (Dec. 30, 1876) is recorded: A call of the house was then made to obtain the crop report of the club for the year 1876, of which the following is the aggregate:

Acreage.	Crop.	Av. per acre.
Wheat..... 385	6,367 bus.	19 bus.
Corn..... 405	8,039 brs.	75.9 brs.
Oats..... 73		24 bus. } As far as
Rye..... 34	560 bus.	16½ bus. } threshed.
Potatoes..... 13	1,560 bus.	87 bus.
Hay..... 405	493 tons.	1¼ tons.

Pork, 38,789 pounds. Three members sold \$610 worth of pigs. Three members sold 1,200 boxes of peaches. Seven members made 11,078 pounds of butter. The net profits from sheep-husbandry during the year amounted to \$1,357.53. The last item is a particularly strong argument in favor of sheep-husbandry, when we consider the small size of our farms, and the fact that only a portion of the members raise sheep. In addition, one member claims to have made a vast quantity of cider; but home consumption had made such an inroad upon the number of barrels, that he was ashamed to furnish the figures. All of which is respectfully submitted.

B. D. PALMER, *Sec.*



**Abstract of Proceedings of the Montgomery Co. Dairymen's Association.**

This association having been organized but little over a year, has necessarily but little past record to draw upon for the present occasion. The society meets four times a year; the meetings have not, as yet, been so largely attended as could be wished, but all present have at each meeting shown much earnestness in sustaining the organization, and it is now believed that its success is assured.

The increased demand for dairy knowledge in the past few years has rendered it imperative that there shall be some medium for an interchange of ideas.

Some of the topics discussed, either by essays or verbally, are as follows:

1st. "The best breed of cattle for dairy purpose." This subject was very elaborately discussed, and the final verdict rendered in favor of thoroughbred Alderneys.

2d. The most profitable time to have cows fresh to make butter for the Washington market. Thought most remunerative to have them calve in September.

3d. In what kind or kinds of feed can a given amount of money be invested to the greatest profit in feeding cows for the production of butter. This subject was treated of most thoroughly by Francis Thomas in an essay since published in the *Montgomery Advocate*. (We recommend the essay to all farmers.) His decision was that the best feed for cows is plenty of clover hay, corn meal and mill feed, in the proportion of one of corn to two of mill feed.

The cause of bad winter butter is from milk being kept at too low a temperature, or else, when this is remedied, by putting it in a cellar, the ventilation is insufficient. The only way is to have a coal stove in a well-ventilated room; temperature, 60 degrees. The cattle disease, so destructive in part of Howard county last summer, was investigated by a committee of this association and their report published in the *Montgomery Advocate*. The disease was Rhinderpest; the only cure, prevention,—as the disease is purely a contagious one. Agreeable to a suggestion from this body to the Montgomery County Agricultural Society, the number and amount of premiums given on butter at the county fair by that society was increased,—the society recognizing the fact that the dairy interest had reached a point that is an important factor in the economy of the county.

The importance of the Dairymen's Association will, we believe, increase largely, as dairying in this section becomes more universal; and to all who will join us and help in making it what it should be, we extend a hearty welcome.

CHAS. F. KIRK, *Secretary*.

**How to Increase the Quantity of Home-Made Manure.**

At the Farmers' Convention, held at Sandy Spring on the 13th of January, 1876, it was proposed that the undersigned should prepare an essay as to the best way of increasing the quantity of home-made manure; and although he strongly objected to his selection made by the Convention, still, as the duty was imposed upon him by a

very decided vote, he has reluctantly endeavored to comply with the wishes of his fellow-farmers, by submitting the following suggestions for their consideration.

The question is certainly one of vital importance as every farmer will doubtless admit,—for, the yield per acre, the permanent importance of the farm, and, indeed, the general prosperity of the farmer, all greatly depend upon the correct solution of the question. It may be remarked, that gentlemen who have amassed a fortune in the city, frequently remove to the country, and become apparently, in a comparatively short time, very prosperous farmers, leaving their neighbors, who have been plodding on for years, far behind them. This apparent prosperous farming, however, must not be allowed to deceive us, for in these cases an abundance of bank stock and a liberal supply of coupons, is doubtless frequently resorted to with the view of supplying deficiencies; while with the ordinary farmer, who has no such resources to apply to, the home-made manure pile is of vital importance, for that is usually the only kind of *bank stock* to which he has free access, and upon which he can draw at pleasure. In the first place it may be remarked, that the farmer *must be economical in every particular*. He must waste nothing, neither time nor material. And very especially must he keep a vigilant eye to the condition and contents of his barn yard. He should never allow vines, straw, fodder or any other vegetable matter that could add profitably to his manure heap, to remain scattered over his farm, or in fence corners,—for every thing of the kind should be deposited in the barn yard, where it will not only act as an absorbent, but it will decay and be prepared to supply the elements necessary for the growth of future crops.

During the fall and winter, a boy and ox or horse cart, could not be more profitably employed perhaps, when the work upon the farm is somewhat slack, than to haul leaves from the woods into the barn yard,—for the more thoroughly it is kept supplied with appropriate litter, the less likely is there to be a loss from the manure heap by the liquid parts escaping, either by drainage or evaporation; that is to say, the barn yard should always be kept *dry*, and yet no liquid matter should be allowed to *drain off*.

Another very important subject that should receive careful attention, is, that every animal upon the farm, during the winter season, should be supplied with an abundance of clean and dry bedding. If straw is scarce, the deficiency should be supplied with leaves. None should be neglected, especially the occupants of the pig pen, though I regret to say, that these are frequently sadly neglected, greatly to their discomfort, as well as to the serious loss of the farmer. Spent ashes, wood-pile dirt, and all other refuse matter, could find a profitable place in the barn yard.

Stock should never be allowed to spend much time in the woods or lawns, or other places not kept under cultivation, for reasons that are obvious,—for, if such losses are allowed to occur, the fertility of the farm, and the pocket of the farmer will greatly suffer in consequence.

The plan, too, that some farmers adopt of feeding fodder to their stock in the open field, instead of the barn yard, is thought to be an objection-



able one. Not only is the stock exposed to the cold and inclement winter weather, but the contents of the barn yard is also greatly lessened. No prudent farmer will allow any considerable portion of his straw or fodder to leave his farm. Consume it all either for bedding or for proven-

der. Where it can be accomplished, a most excellent plan is to take city horses to board,—for the farmer thereby not only secures a home market for his hay and grain, but he secures at the same time a large increase to his manure pile.

In conclusion, the undersigned would suggest that every farmer should keep as many stock cattle and sheep (unless he keeps a dairy) as his farm will conveniently support, but no more horses than may be necessary to work the farm to advantage. All of which is respectfully submitted by

JAS. S. HALLOWELL.

Oak Grove Farm, Montgomery Co., Md.,  
January 11, 1877.

### Agriculture as a Science.

(An Address of DR. M. P. SCOTT before Centuria Grange,  
No. 87, Anne Arundel Co., Md.)

#### The Relation Existing Between Animals and Plants.

An interesting relation exists between the animal and vegetable kingdoms, so important that without the vegetable the animal could not exist upon the earth. The two are complementary of each other. The animal, by the act of respiration, abstracts oxygen from the atmosphere; this is also done by combustion of fuel, as wood, coal, &c. Oxygen is also abstracted from the air by the decay of vegetable matter, and by the oxydation or rusting of metals.

By these acts of respiration, combustion and decay, a gaseous compound is given to the atmosphere called carbonic acid. Quantities of carbonic acid gas are likewise given off from the earth in volcanic regions. Now, oxygen is necessary to animal life; and carbonic acid, when inhaled, is deleterious. It is evident, therefore, that in the course of time the atmosphere would be deprived of oxygen, and carbonic acid be in excess,—conditions under which animals would die. Animals also throw off ammonia by the various secretions, which, in quantities, is deleterious to health.

On the other hand these substances (carbonic acid and ammonia) are among those required as food for the plants or their constituents; vapor of water is also given off by the animal, and mixed with the air. Ammonia, which contains nitrogen and hydrogen, is very soluble in water, so that when it rains or snows it is dissolved and mixed with the soil, to be taken up in some form by the roots and appropriated to the structure of the plant. The leaves absorb carbonic acid, inhale it, but now a chemical change takes place, which is effected by the agency of solar light, the carbon of the carbonic acid being appropriated by the plant, and its oxygen is given back to the atmosphere; it is exhaled. Thus are the deleterious substances abstracted from the air by the plant kingdom, and the vital air, the oxygen, restored for the use of the animal creation.

The plant world, in its turn, elaborates the material necessary to support the animal; the plant

organizes materials which, when arranged so as to exhibit form and structure, are termed organic bodies or compounds; these differ in their properties according to the substances contained, and also according to arrangement or structural form of the elements or constituents,—the function of the oxygen being often determined by the arrangement of their constituent molecules, as the skilful architect constructs buildings of different forms, to subserve different purposes, from the same material.

We find in the animal, substances which correspond to those which exist in the vegetable; as gluten of wheat to muscular fibre; vegetable oils to animal fats; vegetable albumen to animal albumen; vegetable caseine to animal caseine; vegetable glue to animal glue, gelatine, &c.; vegetable sugar to animal sugar, and the like. But the plant furnishes a substance to which we find no analogue in the animal. I refer to starch, which furnishes so large a constituent of vegetables and plants, and which is so necessary an article of food to the animal creation, or, at least, to those which are called warm-blooded animals. Plants resemble cold-blooded animals in that they require heat from external sources to grow and reproduce; they do not form within themselves heat enough for this purpose; they generate a certain but small amount of heat, because we know that every chemical combination generates what we call heat; but their chief source is the sun directly, or the soil which has retained the sun's heat; and, likewise, the heat generated by the decomposition and compositions constantly going on of vegetable matters, which we call decay.

On the other hand, whilst animals derive heat from external sources as the sun, or from combustion of coal and wood, which are thus made to yield up their stores of heat derived from the sun during their vegetable existence, sufficient quantity is not in this manner furnished for the development, growth and reproduction of the animal creation.

Hence, warm-blooded animals are generators of heat. Cold-blooded animals, like the plant kingdom, hibernate, are torpid, until awakened by the genial warmth of the sun.

Now I have said that starch, so large a constituent of plants, is not found in animals, and yet is a necessary article of food. When barley is converted into malt, which is done by the action of heat and moisture, you will find that it is sweet to the taste; if you taste a chestnut when it begins to sprout you will find that it is sweet to the taste, different from the sweet of the dried nut—in both cases, the starch, which is insoluble, and which protected the germ from the effects of cold and moisture, has undergone a chemical change, and been converted into a saccharine substance called dextrine, and then into glucose or grape sugar. This change takes place in all germinating seed. The starch, now dextrine or grape sugar, affords to the young budding germ its appropriate food, which, together with the other constituents of the seed—phosphorus, soda, lime, &c.—is what the milk is to the new-born animal.

Almost all fruit, (as apples, pears, peaches, grapes, blackberries, raspberries, strawberries, currants, &c.,) contain, when ripe this saccha-



rine matter, known under this form as glucose or grape sugar. If these be subjected to certain conditions, they will undergo fermentation, by means of which there is another arrangement of the component particles, and the formation of new compounds. Alcohol mixed with water is left flavored with the peculiar aroma of the fruit. By distillation we obtain apple brandy, or peach or grape brandy. But there is another product of this fermentation which is given off as a gas, and which, in malt liquors and effervescing wines, is not allowed altogether to escape, and which gives the foam to the tankard of ale, and the sparkle to champagne. This gas is that same carbonic acid which is so essential to the growth of the plant.

Now, if we follow the starch into the stomach and alimentary canal of the animal, we will observe that it is converted into dextrine and grape sugar, which, being soluble, is taken up by the veins and absorbents and poured into the torrent of the circulation.

During the process of nutrition it undergoes peculiar changes, one of the products being that same carbonic acid gas. Starch is composed of carbon, hydrogen and oxygen, and if you heat it in the atmosphere it will take fire and burn; if you collect and examine the products of the combustion you will find them to be carbonic acid gas and the vapour of water; the heat which is given out when the starch burns is due to the oxydation of the carbon and hydrogen of the starch.

This oxydation of the carbon and hydrogen of the grape sugar takes place in the animal. If you will collect and examine the exhaled breath of the animal, you will find the same things you found when the starch was burnt in the atmosphere, viz: carbonic acid and water. The main purpose of the starch taken as food for the animal is to generate animal heat, and the process is identical with that of combustion.

The oils and fats are chiefly applied by the animal organism to the same purpose; so in regard to alcoholic drinks and the like. People who live in cold climates feed largely on fats and oils, and drink strong whiskey and brandy. Those who live in warm climates require food containing less, and drink for the most part light wines and acid drinks.

It is a disputed point whether starch substances are converted partly into fat, or all burnt off; my opinion is, that starch may be converted into fat, and laid up for the future wants of the system.

I have not time to pursue this subject farther, and to show the wonderful uniformity of construction and function existing between the vegetable and animal kingdoms; but enough has been said to show the relation between the two. How each contributes to the growth and maturity of the other; and secondly, that as the vegetable kingdom affords food to the animal, so does the animal kingdom afford it to the vegetable—that is manure, which is the food of the plant.

#### Manures.

Therefore, when we consider the subject of manures, we must, from what has been said in regard to the mechanical structure of soils, and the chemical constituents necessary to produce

different crops, consider them according to the sources from which they have been drawn, viz: the vegetable, animal and mineral kingdoms, bearing in mind that the soil must contain all that the plant requires to build it up, that it does not take from the atmosphere. If it does not, the farmer must apply those things in which it is deficient.

In purchasing general manures, those which contain the substances suitable to all should be selected,—phosphate of lime, potash, lime, ammonia,—because analysis shows that most of your crops, as wheat, corn, vegetables and tobacco, contain these substances in some shape or form. These form the basis of artificial manures.

#### Vegetable Manures.

These are applied in a green or dried state. Green manuring is the turning into the soil, vegetable matter which is growing. Of these the best are clover and peas, or buckwheat.

What is the principle which underlies their application? They act mechanically and chemically—mechanically upon stiff soils by loosening their texture, making them lighter so that the roots may penetrate deeper in search of food; chemically, by giving to the surface soil constituents which they did not contain. Clover penetrates deep into the soil; it is emphatically the vegetable manure for stiff clay soils. The pea vine is unsurpassed as a vegetable manure, and is admirably suited to your light sandy soils, and will flourish where clover will not. Now, why are the clover, pea and bean, and this class, so fine manures? Because, they give to the soil constituents which it did not before possess, and which are necessary to the crop. But how does it do this, since it grows in the same soil and surrounded by the same atmosphere as the crop following does? In this wise: the roots of the pea and clover penetrate deep into the soil, and bring up mineral matter, which lies too deep to be reached by the roots of the crop plant.

This is one reason: another reason why the pea is so excellent a manure is, that it feeds upon the nitrogen of the air; thus, it adds to the soil mineral matter and nitrogen, both necessary to the plant, which it did not before contain. *And this is the philosophy or science of green manuring.*

#### Animal Manures.

Animal manures are of various kinds, consisting of parts of animals. Blood and flesh are often employed. It is imported from South America and Texas, where immense numbers of cattle are slaughtered for their hides and tallow. Fish are extensively used as manure. The oil having been expressed, the remains are either pressed into the form of cakes or thrown into a heap to decompose; and, when dried and pulverized, used alone or added to phosphates.

Farm-yard manure is another form of animal manure, the richness of which depends upon the richness of the food given to the cattle. Many farmers in England are satisfied if their highly-fed cattle will pay for the food they eat; the profit consists in the rich quality of the manure to be converted into wheat, potatoes and other vegetables. Farm-yard manures are much slower in their effect than artificial manures.

#### Mineral Manures.

All soils contain more or less mineral matter of some kind. That which is deficient in worn-out



land is phosphate of lime, because this substance is a large constituent of wheat, corn, tobacco and bone, which has been abstracted by them from it. The bones of animals contain a large percentage of this mineral matter. All of these matters have been furnished by the plants; therefore, in order to grow grass, or wheat, or corn, &c., the soil must, among other things, contain a certain quantity of phosphate of lime, the solid constituent of bone.

Phosphate of lime is also found as a natural deposit, as in South Carolina and other countries. The animal matter of the bones, of which they originally formed a part has been burnt off, or, what is the same thing, decayed off, and the mineral matters, the phosphate, left.

These phosphates are less valuable, according to quantity of sand and other earthy matters mixed with them.

#### Treatment of Bones.

Both bone and the natural phosphates require treatment before they are fit for agricultural purposes. I have said that all plant food must be reduced to the liquid or gaseous form before it can be taken up by the plant. You may bury a bone, and it will remain as such for years before it will decay. The phosphate is almost if not quite insoluble in water. Therefore you must add something which will alter its nature or structure before water will dissolve it. This may be done in several ways:

1st. Boil the bones, when they become soft; some of the animal matter is thus dissolved. If now you make a compost of woods-earth, muck and some stable manure, and pour on some water, the mass will ferment, and along with other matters the bone (which should previously be broken into small pieces) will decompose and become a soluble manure containing the constituents of the bone,—phosphoric acid and lime.

2d. The usual and most rapid process is to dissolve the crushed bone by means of sulphuric acid, by which an acid phosphate of lime is formed which is soluble in water, and a sulphate of lime, or gypsum, or plaster of Paris.

This process is pursued with the natural products of phosphates above mentioned. This forms the basis of all the artificial manures offered to the farmer, except the fish guano.

(CONCLUSION IN OUR NEXT.)

#### Manures and Chemical Fertilizers.

At a recent meeting of the Massachusetts State Board of Agriculture, Prof. Levi Stockbridge, of the Agricultural College of that State, delivered an address on this subject, concerning which a good deal appeared in our last volume:

He claimed to have little to offer that was new, but devoted his hour principally to a review of past experiments by himself and others in the use of chemical manures. As on former occasions, he explained how plants must be fed, that all the elements which enter into the composition of a plant are indispensable to its perfect development. Some of the elements, however, need never be furnished artificially, as the plants can always find a supply in the soil, or in the air. Carbon is found in plants, but it need never be

fed, because enough is always supplied by nature, but nitrogen is not always so supplied. Soda is necessary to the perfect development of certain plants; but according to experiments that have been made, it does not appear that soda need ever be supplied by the farmer. The condition of plant food is also of much importance. If it is raw and undecomposed, it is unavailable as food for plants,—and so a small quantity of material that is in condition to be assimilated by the plant, is worth more for present use than a large quantity of that which is raw and crude. The object of the experiments made at the college was to see if the chemical elements could be compounded so that they will produce practical results. The compounds experimented with have been called the Stockbridge fertilizers, or Stockbridge formulas. It has been said that these formulas are a humbug, because they have been changed from year to year; that they were not the same in 1875 as in 1874. They had been changed, said the speaker, and if a farmer had come to me in 1869 I should have told him what I was using then, for a certain crop. In 1870 I should have told him I was using something different. In 1871, he would have been told of another change, and so in 1872, 1873, 1874 and 1875, he would have been told, if he had asked me, that I was using chemical elements in different proportions each year. In 1875 and 1876 my experiments were made with the same formulas.

The past eight years have been years of experiment and study. And he was not sure that he may not use different formulas in the future from what he has recommended in the past. He does not *know* as they can be improved, but he *thinks* they can. A few words about the season of 1876. Now, he does not believe that the farmers of New England, generally, have received their money back for any kind of manure that has been applied during the summer of 1876. The weather has much to do with the successful application of any manure. There must be heat and moisture to make crops grow, but the farmer is more independent of weather when he uses decomposed materials, than when he applies them in a raw and crude condition. Chemicals that need no decomposing, and little water, must certainly be more effective in dry weather than those which require a large amount of moisture to bring them into an available condition. During the growing months of the summer of 1876 there were but 16½ inches of rainfall, the same amount as in that extremely dry summer of 1873, while in 1874 there was a fall of 26 inches during the corresponding months.

In August, of the present year, the month that determines, to a great extent, the product of the corn crop, there was less than three-tenths of an inch of rainfall. In 1874, the average temperature during the growing months was 65°. In 1876 it was 70°, a difference of 5°, and that, too, with but 16½ inches of rainfall against 26 inches in 1874. Such changes *must* make their mark on the products of our fields.

The Professor next alluded to experiments which are now being made at the college, to determine, if possible, how much nitrogen is supplied to plants from natural sources. Sixteen different plots have been planted the past season, with that object in view, but without having



learned anything. Yet the experiments will be continued, and within ten years something valuable may be learned, unless we are on a wild goose chase. He then gave an account of several experiments made with crops followed by other crops, without subsequent manuring. One made near the college farm was upon an acre and a half of poor waste land, where chemicals were applied for corn, and after the corn was removed the land was sown to grass without additional fertilizers. This was to see if the chemicals were all exhausted the first year. The ton and a quarter of hay per acre, showed that the fertilizer was *not* all taken up by the corn crop the first year. This experiment would seem to indicate that chemicals may be used for more than one crop with a single application.

He then explained his course in getting his formulas secured by copyright, so that his own name could not be used by irresponsible or ignorant parties, to the disadvantage of the public. No one is debarred from using or compounding any fertilizer he pleases, nor is any one debarred the privilege of buying what and of whom he may choose. He is only prevented from selling compounds as by authority of Prof. Stockbridge, when Prof. Stockbridge knows nothing of the compound, or of the dealer who may offer it.

The speaker then read extracts from a number of letters which he had received from men who had experimented with his formulas the past season. Some of these experiments proved failures, while the majority were satisfactory to those who made them. Among the failures was one where the fertilizer was all put in the hill on a field of ten acres, and which did not show ten spears of corn. Another, where a field of corn grew well till the time for blossoming, but on account of the severity of the drought no pollen was developed, and consequently no corn. Among the successes were mentioned the fields on the College farm, where sixty-nine bushels of shelled corn grew on four-fifths of an acre, at a cost of forty-four cents per bushel, and the Waushakum farm experiments, where sixteen acres produced seventy-five bushels per acre, at a cost of forty-five cents per bushel.

In conclusion he would say that he never had claimed that anybody could prepare compounds, send them everywhere to be used by everybody, and in every possible manner, without having failures; but he does claim that chemicals will grow crops; whether they are called Stockbridge formulas, or by any other name, it made no difference to him. The point he had been trying to prove was that crops can be grown successfully without stable manure; that after all the manure has been used, there is still a chance to grow more crops, if those crops are wanted. He would use all the stable manure that is made, and make or save all he could. It is a waste product and should by no means be wasted, but the old brush pastures on our New England hills cannot be brought back to their original state of fertility by stable manure. Unless those hills can be fertilized by chemicals, they are to become depopulated and given over to wood and partridges. He had been carrying on his experiments with chemical fertilizers for years. They had been no secret,—he had given

the public the results of his researches as they were made. Farmers were aroused throughout the State, and were anxious to prove the value of his experiments on their own farms, and they all jumped upon his car before it was ready. Although the college professors are not hired to try experiments, there is a need to have experiments tried. The farmers of the Commonwealth demand an experiment station—nor do the farmers alone need it. State Street men need it; mechanics need it; Massachusetts needs it, and every man, woman and child would be benefited by it. We have four-year terms of manufacturing politics, four-year terms of railroad politics, and now we want a four-year term of agricultural politics. Then send your farmers to the legislature, not as politicians, but as farmers seeking the highest good of the public. Then we shall have an experiment station, and if any man finds, after a four years' trial, that he is not benefited by it to the amount of his tax, I will pay it, and it will not cost me over ten cents per year.

#### Protecting Tobacco Plants.

In our January No., page 31, we stated that our correspondent, "Nansmond," in a letter addressed to Maj. R. L. Ragland, a well-known tobacco-grower, of Halifax Co., Va., recommended a cheap means of protection from the casualty of last season—destruction by frost. In a subsequent number of the *Messenger*, Maj. Ragland makes the subjoined remarks upon the subject, in his reply to "Nansmond," to which he adds, that his suggestions are valuable, and may accomplish the purpose for which they were given to the public,—the experience and success of the writer in plant-raising entitling him to be heard on so important a question. Maj. R. adds a suggestion to those who will follow the old mode of preparing plant land: "Sow more seed, and continue to re-sow at proper intervals until your plants are out of the reach of the bugs." In a note from "Nansmond" to the *Farmer*, he suggests that the \$20.50 for screws and planks should be charged to 7 or 8 years, and not to any one year, because they last that long; hence the increased expense would be only \$3 to \$4 per hundred yards.

#### Raising Tobacco Plants in Cold Frames, under Cloth Screens.

The work suggested seems both feasible and practicable, and I doubt not tobacco plants, like those of the cabbage and lettuce, may be raised in the manner indicated in your letter. The screens will not only protect the young plants from frost, but will effectually keep off that more dreaded pest, the flea bug, so destructive to the young plants. Another advantage this new mode will have is, that the beds may be so arranged as to be easily watered when necessary.



Let us see about the cost and supply of plants. Under the old system it is not safe to prepare less than 100 square yards of plant land to each hand. Many prepare 50 per cent. more than this. To cut the wood, burn, prepare and sow, manure, cover and fence, will cost first and last about four dollars to every 100 square yards. Under the cold frame and cloth screen system we have

Removing top soil and spading 2 by 10 yards....	\$ 1 50
Plank and planking.....	5 50
Applying new burned soil.....	3 00
Sowing by drills.....	50
Fifty screens, at 30 cents each.....	15 00

Total.....	\$25 50
By old method.....	4 00

Difference ..... \$21 50

But as it is safe to say that the drill system will produce double the number of plants as by broadcasting, and better ones too, the relative difference in the cost of the two systems is lessened, but to what extent can only be known by experiment. I would recommend to planters to give your mode a trial at least on a small scale. I have confidence that by this new mode the flea bug may be effectually flanked, and that the young plants may be kept safe and growing, regardless of frost, drought or bugs.

#### Lucerne.

This forage plant does not seem to be in favor with the *Germantown Telegraph*. It says:

Just now the growing of Lucerne, a species of tall grass, not greatly unlike the Hungarian article, continues to be favorably spoken of in many of the agricultural journals, and its vast productiveness much extolled. This Lucerne, or alfalfa, no doubt answers very well in very rich land and in certain portions of the country where the other and far better grasses will scarcely do at all. But where timothy, clover, red-top, orchard-grass, &c., are adapted to the soil, as they are pretty much everywhere, nobody wants either Lucerne or Hungarian grass. Throughout eastern Pennsylvania, and especially within a radius of say thirty miles of Philadelphia, where land is high, where dairying is very profitable, and where it is an important object to raise as much cattle-feed as possible upon an acre, we have no knowledge of any one raising either the one or the other of these "productive" grasses for their cattle. They can do far better. Forty years ago Lucerne was grown by a few fancy farmers in this section, who spoke in the highest terms of its value, &c., but who, in a very few years, quietly abandoned it.

The trouble is, we opine, that it needs some care and plenty of manure.

#### A Cheap and Useful Fence.

A correspondent of the *Country Gentleman* describes a useful fence as follows: "For cattle and horses three rails are sufficient, and, if the rails are thirteen feet long, four rails will make a rod of fence. The posts are set twelve feet four and one-half inches from centre to centre. If the rails are shorter it will take more in proportion, but it must be seen how great the economy is in rail timber when it takes fourteen rails

to the rod of crooked fence, and only four rails for this straight fence. And a further comparison shows that these rails, bolted upon the posts, can never be thrown off by any animal, nor blown down by any wind, and that it must stand until the posts rot off; while the crooked rail fence is subject to be blown down by the wind and pushed down by animals, so that you are never certain of its remaining perfect for one month. Rail fences must be thoroughly examined and righted up every year, and sometimes several times a year, while this bolt fence will remain perfect for twenty or more years, according to the durability of the posts and rails, which would save in labor during that time more than the original cost of the fence.

The fence also obstructs the snow less, and therefore, as a good fence, causes less drifts in winter. Being straight, it furnishes no harbor for weeds not cut by the mowing machine, and the plow can reach all the land. We build this for a division fence between us and our neighbors, and since then no report comes of animals getting through our fence. It is therefore conducive to peace in neighborhoods. This fence is built in the following manner: Set durable posts 7 feet 4 inches long and 3 feet deep, leaving 4 feet 4 inches above ground, and as far apart as the length of your rails will allow, letting the rails run about three inches past the centre of the post. If we split the rails for this purpose, we have them cut 13 feet long, and the posts set 12 feet 4½ inches from centre to centre, requiring one and one-third lengths to the rod, thus using four rails and one and a third posts to the rod. To prevent posts from being lifted by the frosts, nail a short block, one and a half inches thick, across the lower end of the post on the side; tramp the earth down upon this block, and the post will remain perfectly in place until it rots. Bore the upper line of holes in the posts, 4 feet 2 inches from the ground, and, if three rails are used for cattle or horses, bore the other two holes 14 and 28 inches below; this will leave the bottom rail 20 inches from the ground, too low for cattle to get under; but if sheep or hogs are to be fenced against, use four rails, spacing them accordingly; boring the first hole below the top 14 inches, the second 18 inches, and the third 12 inches, leaving the lower rail 9 inches from the ground. The holes should be bored with a ½ bit, so the bolt (5-16) will slip in easily. To bore rails accurately and rapidly, after the posts are set solid, form the ends of the rails of the right thickness, so that a 9-inch bolt will reach through the ends of two rails and the post. The rails for each length of fence are placed on alternate sides of the posts, so the rails come on opposite sides, and the bolt draws each tightly against the post, holding them rigidly in any position. After boring a hole in one end of the rail, run a bolt through this hole and through the post, which will hold that end; now place the other end of the rail upon a bolt in the corresponding hole in the next post—the bolt, being under the rail, will show exactly where the hole is to be bored. There being one and one-third holes to be dug to the rod, the labor is much less than in building an ordinary board fence, and can be done for twenty cents per rod. It will be seen that this style of fence can be built out of any crooked.

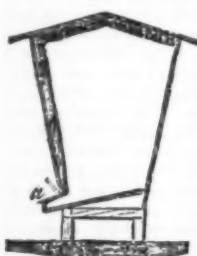


rail fence which has four sound rails left. It takes a breechy animal to jump this fence four feet four inches high, and it is a great comfort to know that your animals will remain where you put them. These bolts can be bought for \$2.40 per hundred, costing 9 6-10 cents per rod, making a three-rail fence cost from 65 to 90 cents per rod, according to cost of material."

#### A Self-discharging Corn-crib.

We copy from the *American Agriculturist*, a journal which abounds in suggestions of contrivances for economizing time and labor on the farm, the following description and cut:

A corn-crib from which the corn may be taken when wanted, without opening any part of the



upper portion, or without the use of a ladder or steps, may be made as shown in the engraving. The floor slopes from one side to the other, and its lower margin projects beyond the side of the crib sufficiently to permit of a box in which a scoop or shovel can be used. The projecting part of the floor is made the bottom of a box, which is built up upon it, and which is

open on the side next the crib, so that the corn will slide into it. A cover is hinged on to the box, so that it may be turned up when corn is to be taken out, as shown by the dotted lines. This cover should be kept locked for obvious reasons. To facilitate the use of the shovel, the opening into the crib is closed for a space of two feet, either in the middle or at each end; at these closed places there will be no corn upon the floor of the box, so that it will be easy to shovel out the corn. In one part of the West cribs of this kind are in common use, but we have not seen them elsewhere.

#### Renting Farms on Shares.

A correspondent in Tidewater Virginia gives us the following, in a private letter, as the terms on which he has rented a farm,—terms which seem to us very liberal to the cultivators:

"I furnish land and team, feed the team, keep my stock of all kinds as usual. The two young men who run the farm furnish all the labor and get one-half.

"I feed one negro, a faithful man, to attend to my stock, and pay him \$100 per year. I furnish 40 bushels seed peas, which they return. So also similar banks of manure to those they find on the farm. Guano and seeds bought and charged to crop account, hence each pays half. They engage to make 1,000 bushels corn; 10,000 hills of melons (700 to the acre); 8 barrels of Irish potatoes are to be planted for market; 4 of sweet; 6 to 10 acres of peanuts, and manure them. They sow my clover free of charge on winter oats, and they get one-half the surplus hay sold, and have one-third the cider made. They are paid a per diem in marketing fruit, and they are to keep a good kitchen garden for me to draw on *ad libitum* in spring and summer."

## Correspondence.

### Special Manures.

#### Is a Soil Made Poorer or Richer by the Addition of Plant Food?

Messrs. Editors *American Farmer*:

In your December issue, 1876, appears an extract from a recent circular of the Connecticut Agricultural Experimental Station. Your readers, in common with myself, are under obligations for the many truths taught therein. Among which, conspicuously, is a clear statement of what substances are necessary as plant food for the fertility of the soil, and an equally clear and succinct refutation of the idea of ascertaining the quantity and proportions of available plant food in a soil, by analysis.

The important doctrine is plainly laid down, that we may feed our crops not only by giving them the ingredients of guanos, phosphates, potash-salts, &c., but indirectly by rendering stores of plant food, present in the soil or atmosphere, available through tillage and the use of cheaper fertilizers. "A little lime or plaster may sometimes be thus more valuable than an amount of phosphates or potash salts that would cost several times as much."

This is the true doctrine expressed in words of unmistakable meaning, and cannot be too often repeated. Here we learn that the chemical effect of lime and plaster, in rendering stores of plant food available, is exceedingly beneficial in fertilizing the soil. They are in themselves fertilizers, and they also manufacture plant food from the compounds of the soil and the atmosphere.

The process of elaboration, in rendering other substances available, it is well understood, is their chemical influence and the affinities they possess and exercise in their decomposition, and the formation of compounds in the soil.

This decomposition of bodies unavailable to plants, and the production of available compounds, is the result of chemical forces set in motion by the fertilizer. It is the very basis of fertility; the source of life to plants. Whatever promotes these changes, increases and maintains fertility.

But suppose a farmer, who, so far from understanding these phenomena, does not even know a descriptive name, and instead of designating them as chemical fertilizing forces, from some real or imaginary circumstance, should surmise that these changes exhaust or destroy instead of promoting fertility, and should ascribe the phenomena to the action of "stimulants."

Should he be told squarely that this word "stimulant," in this connection, is as utterly out of place and void of meaning as the word opiate or sedative in the same connection; or should the opposite of truth be admitted and followed by ingenious explanations, in words without meaning, of how error is consistent with truth?

The word stimulant in this connection is of equal value, (as Liebig says of the expression, "vital principle.") with "specific" and dynamic, in medicine; every thing is specific that cannot be explained, and "dynamic" is the explanation



of all we do not understand; the terms having been invented for the concealment of ignorance under learned epithets.

The author of the circular under review knows the truth; he has stated it. But has he had the courage to maintain it, and to oppose error; or does he compromise truth in apologizing for error? Let us see.

He says, "Many farmers find that guano, fish and other special fertilizers, whose action is *quick and stimulating*, seem to leave their soil in a more exhausted condition than before they were applied. And the complaint is not uncommon that such fertilizers do not bring the same return as formerly. May we not at least question, he continues, whether the immediate effect of these special fertilizers has not been, in many cases, to aid the plant to use the more available stores of food in the soil, until these latter have become so far exhausted as no longer to respond to the stimulating action of the special manures?"

The old school of the "stimulating" agitators accuse these fertilizers of "stimulating" the plants. Now comes the new school, with notions nearer the figurative expression of truth, but equally false in fact.

It seems now that the "stimulation" acts, not so much on the plants as on other plant food in the soil. That is, these, by their chemical action, their so-called stimulant effects, manufacture available plant food out of insoluble combinations; inasmuch that the plants grow prodigiously on the abundance, and may use twice as much as if it had not been there.

So, under the new school, while the "stimulating" fertilizer is much to blame for arranging the preliminaries, the plant is the real "robber," who carries off the goods. The "stimulants" and the plants stand, therefore, in relation to the exhaustion, respectively, as accessory and principal offenders.

The next step will be to maintain or to complain, or say that some one else has complained, that a fertile well-drained soil is "*stimulating*" and *self exhausting*, because of the "*quick and stimulating action*" of its constituents in supplying the plants with food; while the soil under a pond will be void of offense, because always holding abundance of food, and never wasting it on plants, or suffering any diminution.

Provident sires will refrain from draining or cultivating the pond, because its fertility would be exhausted by plants which are sold away, thus "enriching the fathers and impoverishing the sons."

So another step, in the same direction of preserving fertility, is to abandon *cultivation* during the growth of plants, because this promotes porosity, the access of oxygen, the arch destroyer, decomposer, and most active atmospheric agent in the soil, and to dispense with lime, because it is the most active decomposer on the list of soil plant food.

The propriety of this is very apparent when we remember that it is only during the changes, promoted by active ("stimulating") agencies in fertile soils, that plants snatch their daily food. Besides, many farmers complain "that their soils become poorer every year under the treatment of plowing and liming," and the opinion and

complaints of respectable farmers cannot by any means be safely ignored. Their experience must outweigh all the theories in the world.

But the author of the circular does not go this length. Why, then, does he record the complaints of farmers, and clothe them with significance, that rest on notions that ultimate in these absurdities?

"And the complaint is not uncommon, says the circular, that special fertilizers do not bring the same return as formerly." What significance or sense is in this complaint? Everybody knows, who understands anything about it, that no fertilizer not containing all the constituents of soil food ever made a plant or made any "return," except in conjunction with the other necessary substances of plant food. If, last year, in conjunction with other plant food, a special fertilizer contributed its part in the production of 1 lava, and this year fails to produce plants in the *absence* of the other food, it is "complained" that it "does not make the same return as formerly," and a plausible explanation is given of this complaint. Yet by the same course of argument, or rather, unreasonable and nonsensical expectation, if a manure in a propitious soil, in conjunction with seeds, last year, produced plants, and the same manure should afterwards fail to produce plants in the *absence* of seeds, then, just as truly as in the former case, the manure "has failed to bring the same return as formerly."

Now let us "explain the explanation" of the circular. In due regard, not only for the complaints of farmers, but also for their mode of expression, may we not at least question "whether the immediate effect of the fertilizer" was not to aid the seed "to use other available stores of food in the soil" until the seed became so far exhausted as "no longer to respond to the stimulating action of the special manures?"

Does this courteous servility untangle the conglomerated notions of a farmer, who imagines and "complains" that a soil becomes poorer by the introduction and influence of a special fertilizer—especially if it manufactures other fertilizers of inert matter in the soil?

Why recoil from the broad announcement of truth from a stand-point overlooking the whole subject, and run into extreme nonsense in the explanation of groundless complaints expressed in language, in an intelligent view of the subject, wholly without meaning?

Why "question" whether the effect of special fertilizers is not to aid the plant to use other food in the soil.

Is any one who has thought of the subject at all, so ignorant as not to know that every substance of plant food, in contact with plants, contributes towards the formation of organs for the acquirement of other food, and hence "to aid the plant to use other food in the soil?"

Does anybody suppose there is any conceivable active fertilizer that does not contribute also, in some degree, towards the formation or availability of other plant food in the soil?

The more intensely a manure acts, and the more numerous the substances it influences, the more it contributes to fertility according to one theory, and the more it exhausts, according to another.



Of all fertilizers, lime is perhaps the most conspicuous in this respect, acting on a greater number of combinations than any other. It is, therefore, according to the stimulant-exhaustive and farmer's-complaint theory, the most exhaustive of all fertilizers; and according to common sense and experience the most unceasingly active, and, therefore, most useful and lasting of all fertilizers.

An inert insoluble substance, though containing the elements of plant food, will not feed the plants. It is not a fertilizer in the sense of feeding plants. So, according to our theory, when dormant it is not a fertilizer; and according to the other theory, when active it is an exhaustor.

But after explaining how special fertilizers exhaust the soil by stimulating other substances, &c., the circular comes to ashes, which "supply directly all ingredients of plant food except nitrogen;" "instead of wearing out soils, they strengthen them."

They, it seems, are not subject to the complaint of exhaustion. But the writer under review, predicates of *them*, the ashes, the very same fact which he sets forth as the reason why special fertilizers are exhaustive, viz: That "their action is very likely not unimportant in rendering *other materials in the soil available*."

We are refreshed with the announcement, however, that "farmers do not complain that stable manure helps to exhaust their land." Yet stable manure doubtless has also considerable influence in the elaboration of other food, and according to the "stimulant" theory must be exhaustive, though the farmers have not complained of it.

They would, however, be apt to complain, if it were applied *alone* to a soil destitute of plant food in other forms.

FARMER.

#### Winter and Spring Work.

*Messrs. Editors American Farmer:*

We should try and suit ourselves to the seasons. Winter begins somewhat before the new year. It is one of the extremes,—yet bracing to the system, and not without its pleasures. There is a time for every thing, and whatever happens in the appropriate season comes up to expectations. We look forward to winter to prop up the system, to give leisure to read and study such works as afford information and pleasure; to utilize the snow by means of sleighs in visiting friends, and enjoying the conversation of the grave and gay.

Farmers should make use of this season in making and repairing implements, hauling various materials, such as wood, manure, rails, &c. Materials for fencing, hewing posts, splitting rails and hauling logs to be sawed into planks. Horses, cattle, sheep and hogs require more attention at this season than any other; how much better they go into spring and summer after the husbandman has protected them from the inclemency of the weather, and been regular in feeding, salting and watering them. The animal that is neglected, and left out in the cold, and not regularly fed and scantily at that, makes a poor show in the spring, is checked in his growth, and his recuperation is so slow that he has but a little time to grow and never attains to the average size.

The Scotchman lives in a cold climate, but, except in the hilly and mountainous parts, has excellent stock. His practice is to push his cattle from the start, keep them always in growing order so that when upwards of 2 years, they are as large as neglected stock at 3 and 4 years. By bringing them early into market he is not compelled to sell some for veal, but can make beeves and cows of all his stock. The humane man is kind to dumb creatures as well as his fellow-man. The man of means seeks to make good investments. If a farmer, he is apt to see that without the proper outlay he cannot profitably succeed; he knows he nor his family can have much health and satisfaction without a comfortable house; and, by parity of reasoning, his domestic animals are the better in a barn or good protecting shelter. Protection and shelter will save much food. The profit from stock is enhanced by the manure that is saved and, that gathered from well-fed stock produces a good fertilizer, which stimulates and nourishes a good growth of grains and grasses. Immense benefits result to mankind from the operations of the farmer. Through him, with his grain, his beef, hogs, sheep and wool, man is sustained, strengthened and clothed. Thus, as we have said, winter has its pleasures, and uses as well. It is followed by the genial spring, when all is life and animation. "The birds did sing and so did I, as I passed o'er each acre." The plow, the harrow, the spade, are handled with a will. The trees, shrubbery and flowers all vie with each other in beautiful bloom and odor. When the season comes, put forth your strength. Then is the day and then the hour when the world is astir. Farmer, if you are wise, pitch in. Every thing that is well done will count. Fortune follows and upholds the resolute and industrious. In a word, the earth is our mother and affords nourishment for all.

West Virginia.

#### The Value of Good Roads.

Our venerable friend and correspondent, Geo. C. Gilmer, of Albemarle Co., Va., gives us the following result of the improvement of the agricultural condition of this famous county of the Old Dominion, for which he gives a large portion of the credit to an enterprising settler from the North. After dilating upon the drawbacks and difficulties which have been encountered by the farmers of the State, since the late war, he remarks:

The last year many of them did the very best they could to adopt that plan by which their conditions were so much improved as to stimulate an increased effort for the incoming year of 1877. I am sure old Albemarle, my native county, has, during the last summer and fall, enrobed herself with more beautiful, well planned, faithfully executed and substantial improvements, than in all the other ten or eleven years since the war. Her roads, which were a dread to all who were compelled to pass over them for the last hundred years, are now so thoroughly constructed and graded, as to render a ride over them a most pleasant airing even to the most fastidious; and this is not merely for a mile or



two, but for many, many miles, and the glorious work still bravely going on. These roads had been thus endured by our fathers, grandfathers, and ourselves, because we all had believed it an impossibility even to better them; these same roads have driven many an anxious land-buyer from our now most desirable county, notwithstanding its productive soil, pure water, invigorating climate, and warm-hearted and enlightened citizens; the improvement of these roads over which we have been so long traveling in sadness and sorrow, is a great and most pleasing wonder and delight to all of us.

Why all this should have been so long deferred, and it would not now have been done, but for the very great liberality and untiring efforts of Mr. D. H. Brennan, of Carlton, a God-sent immigrant from the State of New York to our needy and bewildered people,—to whose unerring judgment, and great liberality, and untiring zeal, we justly are so greatly and substantially indebted. Of this improvement I have not said one word too much, and I now invite all who wish to buy good and desirable homes to come and take a refreshing ride next spring and summer.

Mr. Brennan, on his beautiful and productive estate (Carlton,) has unfolded to the view of every passer-by what our land can and will do for the proper person with the necessary appliances, and we all are greatly rejoiced to see his own health has been so thoroughly restored. A few years ago a farm of some four hundred acres was sold at public sale—a crop of corn and wheat was made on it, and the purchaser re-sold it last fall to a friend at a handsome advance; and now this tract could not be bought for an advance of thirty dollars per acre. That sale and its present advance in value was brought about by the improvement in our roads. The road of which I have been writing leads from Charlottesville east across the Montochello mountain to Scottsville, on the James river; the part over the mountain was very rough, unsafe and laborious, and many a fair visitor to the tomb of Jefferson next summer, will rejoice and wonder that the mind of our Mr. Brennan could ever have conceived the practicability of making so good a road, and will gratefully award to him the honor to whom so much honor is justly due for having so thoroughly completed it; for it will be one of the most safe and pleasant rides over any mountain road in all Virginia.

There are two other roads now being made from Charlottesville,—one leading through a very fine portion of our county to the Greene county line, the other leading out by our University of Virginia, west, through a most desirable portion of our county, some sixteen miles to the Miller Academy, now in process of erection upon the solid foundation of a magnificent donation of about one million of dollars from one of Albemarle's most liberal citizens. These two roads are under the jurisdiction and immediate supervision of our most excellent county judge, Mr. John L. Cochran, who has always so thoroughly completed all he has ever undertaken, which is the very best guarantee they will be a blessing to our county and a lasting monument to his great worth. So all who wish to find a sweet, quiet, safe, healthy and profitable home, have only to

come in our midst next spring or summer, and take an invigorating airing over these, our really magnificent roads, and I am sure if they possess the least taste it will be warmed up to the heart-felt exclamation: "There is no place like old Albemarle county, State of Virginia!"

Our farmers are being cheered, and our beautiful town of Charlottesville is fast developing what she soon must be. Our noble University of Virginia, (God bless her and hers), with such a well-selected set of professors, able and efficient, and like so many good fathers, tenderly and affectionately training both the hearts and heads of the hundreds of the very pick of America's most gifted sons for the grand display we hope they will so successfully make on the 29th of June, to the great joy of their fond parents and loving sisters, and to the earnest hope of their confiding countrymen, that out of so large a number many may and will come forth willing and able in due time to save our country from the disgraceful and frightful condition into which our present selfish and unreliable politicians have involved us. Our free and graded schools for both white and colored are equal to the best of any to be found on the American continent.

Now, my dear sir, with a county thus located and so greatly blessed with intelligent citizens, productive soil, pure water, invigorating climate, railroads and water navigation, county roads, thriving towns, schools, academy, and our flourishing University, have we not a just right proudly and confidently to expect and fondly hope for a bright future of peace, happiness and prosperity? Such are the well-founded hopes of our becalmed yet firmly resolved people.

With my very best wishes for your good health, and many years of usefulness to the numerous readers of the dear *Old Farmer*,—to which, God being willing, I hope to contribute my monthly dues during the year 1877,—God save, bless and prosper our country, is the oft, earnest prayer, of your warmly attached old friend,

GEORGE C. GILMER.

January 13th, 1877.

#### The American Farmer.

*Messrs. Editors:*—We are glad to see the old pioneer. Time does not seem to shake it, nor does it become tremulous. It became a success from the first. It stirred up the farmers; got them out of the old ruts. Reflection upon facts laid before them convinced them that their profession was one both honorable and useful in proportion to their enlightenment and energy. All kinds of animals were of inferior breeds; better specimens were imported; better care taken of them. They spread far and wide, and now there are fine cattle, horses, sheep, &c., in this country as anywhere. There are great improvements in all kinds of implements. Your journal is entitled to its share of the credit of improvement in agriculture. In my younger days I had the pleasure of having a slight personal acquaintance with its first editor,—a gentleman much respected. Hope your journal will continue to prosper, and its readers be interested in, enlightened, encouraged and profited by it. Money for a journal like yours is a good investment. C. A.

Jefferson Co., W. Va.



## Extracts from our Letter from France.

It is a rather general opinion that it is not advantageous to submit heifers to be served before two and a-half years of age, as precocious calving interferes with their milk-rendering qualities. M. Steffek, an extensive cattle breeder, confirms the general opinion, by records he carefully preserved, and extending over a series of years. He has ever found, that cows which have had their first calves at three years, have always turned out to be the best milkers. Respecting the propriety of feeding milch cows on oleaginous food, M. Kühn has conducted a series of experiments to test the point. He gave coarsely crushed colza seed, at the rate of 8 lbs. per day, to celebrated milkers; he found the yield of milk in no way affected during the 23 days the experiment was conducted; neither was any alteration observable in the chemical composition or taste of the milk.

The efficacy of steeping seed wheat in a solution of copper, to destroy the germs of smut, is questionable; very often the remedy proved as bad as the disease, and Dr. Kudelka, from a series of experiments, shows the cause is to be found in the leaving of the grain too long in the steep, so that they swell, and the skin breaks at the point of the embryo germ. The best plan is, to not allow the grain to remain in the first plain steep too long, and then still shorter in the solution of copper.

The new, or rather revived Agronomical Institute of France, has been duly inaugurated in this city; twenty-four students have been admitted, after a brilliant examination; the number of "auditors," or students unattached, is about one hundred. The highest form of scientific agricultural instruction perhaps to be found in any country, is given at this establishment; the professors are all men of cosmopolitan reputation, and the appliances for study are unlimited. Experiments, and science in every branch that it can be applied to agriculture, are conducted and taught. It may not be known, that this institution had been founded at Versailles by the Republic of 1848, but was suppressed by the Coup d'Etat—the Second Empire appropriating the grants.

There is nothing satisfactory respecting the destruction of the phylloxera; American cuttings introduced twelve years ago, are reported to be attacked. It is recommended to white-wash the vines frequently during the winter. M. Balbiani has communicated some interesting remarks on the eggs of the bug. They resist perfectly water, as also do the young; the eggs even hatch under water. The fumes of sulpho-carbon, however, destroy them. There is no positive practical cure yet found.

Concrete is becoming a favorite material for stables instead of flags and pavement. It costs less than three francs the square yard; any intelligent laborer can make the bed, giving it the proper inclination; and, by marking incisions when the lime is soft, channels will thus be formed for running off the urine. The broom speedily cleans up the bed, and there is no difficulty in repairing the concrete. The layers of plaster ought to be six or eight inches thick. F. C.

## From Our Corresponding Editor.

## "The American Farmer, Established 1810."

More than fifty years a faithful sentinel upon the watch-tower of American agriculture! What changes it has witnessed, and what scenes passed through! The way-worn and dauntless Pioneer who engineered the agricultural fathers, held up their hands, and pointed them the way through the wildernesses then environing them about, now leads their sons, gently pointing out to them the errors and pitfalls of the past, and putting them in the well-tried and beaten highways to success and scientific perfection.

Other pioneers and watchmen have risen and fallen by the way; but the *Farmer*, guided by the same strong arm and clear brain, still "holds the fort," and leads its hosts on to victory and triumph. For more than half the lifetime of our nation its senior editor has led the cohorts of agriculture to peaceful triumphs, home comforts and general success. During this long period, generals and kings have desolated homes and deluged nations with blood and ruin; politicians and demagogues have "bulldozed," pillaged, and Mexicanized whole lands for selfish ends! Whom, then, should the people honor? Those who destroy or those who build up; those who wound or they who "mollify with ointment?" We claim for the veteran agriculturist the prouder triumph and the unalloyed "crown of rejoicing." His "arts are peace," and he should have its richest fruits. We urge upon the farmers of North and South Carolina, and of the whole country, to make this a complimentary year to the *Farmer* and its veteran leader. Let all subscribe, that he may feel that people know how to appreciate good works and well-spent lives.

## Deep Plowing for Clay Lands.

Now that the farmers are about to begin to break up their ground for next crop, it would be well to determine on having our stiff clay sub-soil lands deeply and thoroughly plowed. When this is well done, danger from drouth need scarcely be apprehended, as an artificial moisture is produced, and all the fertilizing qualities of the soil are brought within easy reach of the growing crops. When such lands are deeply and closely plowed, the work towards the making of the crop may be considered about half completed, and enough of dormant fertilizing properties brought into play to prove equal to a moderate coat of manure.

## Sandy Soils,

where there is not a substratum of clay, we think, give their strength better with moderately shallow plowing, than where too deep! The plow should just reach but not disturb the red dirt, as this thrown out among the top soil perceptibly weakens it. Such soils would make a good return for a heavy broadcast dressing of stable and barn-yard manure, to be turned under on breaking up. This "brilliant reception" would bring the corn and root crops (to which such soils are much better adapted than for cotton) to an early and vigorous maturity.

## More Corn and Less Cotton.

We cannot too urgently impress upon the farmers of the Southern States the great and



urgent importance to them of adopting this change of base. Corn and root crops in plenty, and consequent abundant flocks and herds,—home comforts—advance progress—less labor,—and as much money for the little cotton produced, on account of enhanced value, as for the much hitherto made to glut the markets and impoverish our people. Now, while preparing for next crop, let us think of these things.

#### Orchard Grass.

Messrs. Editors American Farmer:

I wish next spring to have my stock ground set in Orchard grass and red clover; and not being familiar with the character of the former, as it has not been in use in this section, I must ask for information: whether it would be better to sow oats or Hungarian grass with the seeds, or to sow the grass seeds separately, and the full quantity of the Orchard grass to the acre. The lot I wish to try it on is heavily imbedded in ground and small stone,—would prefer not to plow it again for several years, should I succeed in having a good sod established. The Orchard grass I presume from all accounts will create a sod sooner than the other grasses, besides being more lasting. Of the result of the trial, I will endeavor to inform you hereafter. J. S. E.

Cecil Co., Md., January 17th, 1877.

[Our own experience favors sowing the grass seeds by themselves, though we have sometimes sown with oats; would not recommend sowing with Hungarian. These grasses should be sown earlier than seed of the latter.

The land should be in good tilth and the surface smooth and mellow. Sow the Orchard grass at the rate of 20 lbs. to the acre, and the clover at the rate of 6 or 8 lbs. The seed should be sown separately.

The seeds of Orchard grass being very light, should be sown crosswise in two directions. If both kinds are sown on a fall of snow, there will be no need to harrow in; when sown later a light harrowing or brushing in is advisable.—Eds. A. F.]

#### How to Work Our Roads.

The editor of the *Germantown Telegraph* wants to utilize the labor of the convicts in this direction, and we think the idea a good one. He says:

We shall soon be in the midst of trouble with our roads. It is almost the growling season. What shall we do to be saved? Mud-holes and quagmires will soon be the one great momentous question with all who have a horse and cart, or a piece of road in front of him over which horse-flesh moves. With hundreds of people doing nothing, living at the expense of the public all over the country, amusing themselves at light work, which is sold for half which it costs, to the detriment of the honest mechanic, we think they could be better employed in helping us to good roads, thus benefitting all, and interfering with the work of none.

## Live Stock.

### Advertising Improved Stock.

Farmers who have well-bred and thoroughbred stock for sale would do well, we think, to advertise it in the *American Farmer*. There is a disposition shown on every side towards the improvement of live stock of every description, and the demand would be very considerably enlarged if persons knew where they could obtain, at moderate prices, such animals as farmers in the ordinary course of their business—as distinguished from breeders, we mean—can make profitable. We have ourselves very frequent inquiries for stock of all kinds, and are always glad to put sellers and buyers in communication with each other; but the delay and trouble of considerable correspondence necessarily ensues, in many cases, before we can find who has that possessing the desired qualities, of blood, age, price, &c.

### The Profits of Sheep.

The now venerable Col. John W. Ware, of Clarke Co., Va., who in his younger days was one of the most successful and enterprising breeders of sheep that his State possessed, writes the following to the last *Southern Planter*, and, as the experience of so accomplished a flock-master, it deserves careful attention:

I make some suggestions, and in doing so remind you my experience is in the large mitton sheep. Many take up the idea that a fat ewe ought to be reduced to breed. I think not. The ewes are generally fat in the Fall, and do not go out in the hot sun to feed, but lay in the shade and feed in the night; consequently their system becomes languid, and they fail. A neighbor had a lot of fine part-bred ewes that failed; next Fall they were fat, and to reduce their flesh he put them on a plowed field, and they began to die. He requested me to see them. I saw they were dying from constipation, caused by insufficient food. They were at once put on a fine fresh pasture, and began thriving. A buck was put with them, and nearly all produced twins. My opinion is, very fat ewes should be fed a little the middle of the day, in the shade, to put their system in the right state for copulation preparatory to going to the buck. The buck going to ewes, especially ordinary ewes, ought to be put with them at sunset, after feeding him a little to induce him to attend to his duties instead of feeding, and take him away at sunrise, with two or three for company. The ordinary ewes ramble a great deal, and the large, heavy bucks cannot travel with and serve them too, especially in hot suns.

When the lambs are coming a pen convenient should be made, with a shallow trough in it, so fixed that the ewes cannot reach it, but the lambs can get in; and if meal is kept in the trough (it



takes but little,) the lambs will grow fast, fatten and be fine.

Formerly, I have shown how speedily sheep are improved to a profitable standard, and what I have been able to do with them. (I will give you another under my own observation. A gentleman bought the tail of a drove of seven hundred sheep for seventy-five cents each—as the price will indicate, the worst I ever saw. He bought of me a \$100 buck—whose parents won the prizes in England—to put with them for his get. When yearlings he bought another of the same kind. The ewes of this second product he sold when yearlings, at auction, at \$25 each.)

I will make a comparison between cattle and sheep, with every disadvantage to sheep:

At four years old a steer will sell for.....\$40.00  
In that time the ewe will have put four muttons in  
market at \$10 (one each year)..... 40.00

This rejects the four fleeces and all twins. One-fourth is sold each year, and the money is in use. If the steer dies, all is lost; if a sheep dies, only one-fourth is lost. In this neither fleeces nor twins are counted, and sheep require not one-seventh the food of a steer. Is not this in every way disadvantageous to the sheep? All breeding sheep excluded for fear fancy might have something to do with it and all thoroughbreds as too costly for muttons. Took the yearling mutton, the *lowest* price I sold to the butcher for, and on grass; left out the fleece and six-sevenths of the keep, matching the single mutton of a year against a single steer. Can sheep be put under a greater disadvantage? In purchasing, butchers do not use magnifying glasses. He may humbug the farmer, but he cannot be humbugged. Judicious farmers say "seven sheep can be kept on the feed of one steer." Now, let us make a comparison on a fairer basis:

One steer at four years old.....\$40.00  
(If he dies in that time, he and his keep to the time of his death is an entire loss; and at the best nothing is received until he is sold.)  
Sheep, 7 (to equal the  
steer's keep) each  
year.....\$70.00  
Wool, 7 fleeces..... 17.50  
\$87.50 Four years.....330.00

One-fourth of this each year ought to bear interest until the sale to be fair. Fleece more than paying the keep makes the mutton clear, but to make these prices and advantages requires good sheep, and it is what the farmer ought to have. It requires too many of the ordinary sheep to make a small sum to be of much profit. I have shown how speedily good sheep can be generated. If they fail to be profitable, it must be because the farmer does not attend to them and their breeding and does not keep the right kind for profit. No animal requires less trouble and care. Farmers, generally *over*-stocked, frequently remark, "We want more animals to consume grass," and mouths enough are put on to graze into the ground. The grass they had was only sufficient for a moderate stock in *seasonable* weather. A drought comes; starvation follows; the land is entirely denuded—exposed to the scorching rays of a Summer sun and Winter freezing. The animals go into the Winter too poor to get through it, many die, and by this skinning process, the exhaustion of his land and the loss of his sheep, gives a shock to his expectation; he ascribes

his want of success to a wrong cause, and discards the sheep as unprofitable. If he will reverse, have fewer than can consume his grass to a skinning state, even in drought, thus leaving a sufficiency over their support to even partially protect the ground Winter and Summer, the result will be, the right kind of sheep will improve the land, manuring it sufficiently to amply remunerate for the grass they consume; will trample the ground sufficiently for wheat, and will always be muttons to command the highest prices in the best markets.

#### Mules vs. Cows in the South.

Messrs. Editors American Farmer :

I find on page 14 of your January number, 1877, a short paragraph taken from the *Southern Cultivator*, under the above heading, in which the writer claims that nearly every farmer keeps too many cows, and that a mule is about as easily raised as a cow. As he writes for the South, I think he is very badly mistaken in both cases. There is scarcely any of our farmers that keep cows enough, for I find the cows the most profitable animal that we can have in the cotton states. In the first place, the cow will take care of herself for nearly eight months in the year, finding her own feed, bringing home at night a good lot of healthy food for her master, and leaving a good rich deposit in the lot to pay for her night's lodging,—thereby doing much towards helping to keep the farm rich and productive.

In winter give the cow plenty of cotton seed, and either let her run in the woods or in the fields during the day, and shelter her at night, and save the manure. We often hear the question, how to compost cotton seed to put on land. If they will give them to the cows, the compost will be the best they ever had for all crops, and for four months' feeding they will give good compost, milk and butter for twelve months, and the feed is worth more after passing through their laboratory than it was before.

I know that some think that cotton seed is not good for cows, but I have been used to seeing them fed to cows for more than forty years, and I have never seen any bad effect from it yet, and I am now feeding on cotton seed, and am willing to show cows with any farmer in this vicinity, and my farm will produce as much per acre. And besides all this, I have milk for my hogs and I am willing to show hogs and count expenses with any of them, and I find to give the cows cotton seed, give the buttermilk to the hogs, and sell the surplus butter, and haul the manure on the farm, is profit. As to the cheap mules: The mother will cost as much as five cows; the season to the jack, another cow; the mare will not be fit for work, will not eat cotton seed at 10 cents per bushel, but oats or corn from 50 cents to \$1 per bushel; will not raise any hogs, and makes but little manure, and no butter to sell.

THOMAS M. GOULD.

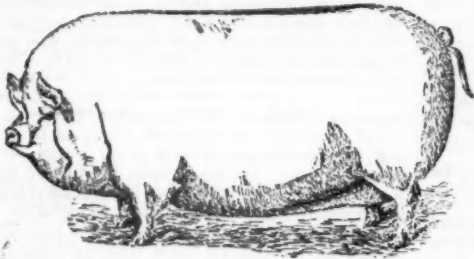
Scott Co., Miss., January 22d, 1877.

HOG RINGS AND RINGERS.—We call special attention to the advertisement of Messrs. Chambers, Bering & Quinlan, who offer these very useful articles in an advertisement in the *Farmer*.



## The Small Yorkshire Swine.

This is a breed of white swine not much known, so far as our observation goes, in this section of the country. Mr. R. M. Hoe, of Morrisiana, N. Y., who has imported and carefully bred them, says they show a fixedness of character found in few other breeds. We give below his description of them and estimate of their value. From a photograph from life, kindly sent us by Mr. Geo. W. Harris, manager for Mr. Hoe, of Model Queen, described in the catalogue as almost a model of perfection, we have had a cut made which shows the handsome outline of these animals.



SMALL WHITE YORKSHIRE SOW—MODEL QUEEN.

"Being frequently asked what are the peculiar characteristics which are supposed to give the small Yorkshires a claim to superiority over the various breeds in common use among the farmers in our country at present, I will here name a few of the leading points of excellence peculiar to this breed:

- 1st. They are quiet in disposition, and not given to breaking through and over fences; and full-grown animals can be surely kept in a pasture or pen inclosed by a fence 2½ or 3 feet in height.
- 2d. Tendency to fatten at an early age; in fact, they are always fat from the time they are a few days old if they have half a chance, and are always ready for the butcher's stall.
- 3d. They are, probably, most remarkable for the small amount of food on which they thrive and fatten, experiment showing that what will keep one animal of the common breeds—or natives, as they are sometimes called—in passable condition, will keep three or four of the small white Yorkshires so fat that they will sleep in unconscious quiet from one meal to the next.
- 4th. Smallness of bone is another characteristic, as by actual weight it is proven that one possesses only about one-half the weight of bone found in an animal of similar weight taken from the ordinary breed.
- 5th. Quality of flesh for table use,—there being about the same difference compared with the flesh of the commoner, coarser breeds, as there is between the flesh of a well-bred game pullet and that of a coarse Shanghai."

## Best Breed of Hogs for the South.

*Editors American Farmer:*

I beg leave to say that I differ from the *Rural Carolinian*, which you quote in your last in regard to the editor's experience with the Poland-Chinas, which he says are too lubberly and lazy.

Now, I have tried the Berkshire, Essex and Poland-China, and the latter stand at the head of the list.

With me they are active and industrious, and will thrive on less feed than any breed I know.

F. L. HERMAN.

Catawba Co., N. C., Jan. '77.

## Movement in Jerseys.

Among the transfers reported by the Secretary of the America Jersey Cattle Club to the *Country Gentleman*, we notice the following:

Daisy 3d 1,186, and Dumbarton Davy 2,113, from J. H. Riemann to G. L. Stabler, Brighton, Md.; Agatha 643, from R. McHenry to J. E. Phillips, Baltimore; Chatham, 1,974, Rose Harebell 3,243, and Rose Harebell 3d 3,244, from A. P. Rowe, Fredericksburg, to G. Julian Pratt, Waynesboro, Va.; Tyson's Minnie 5,401, from John W. Tyson, Baltimore, to Wm. J. Schofield, Sandy Spring, Md.

## Poland-Chinas.

Mr. Z. C. Daniel, who advertises pigs of this and other breeds, has a fine strain of stock, if we may judge from a boar which we purchased from him some time since, which was entirely satisfactory to us as well as much liked by the gentleman who received it. The race seems growing in favor in this section.

## Live Stock Items.

Mr. T. J. Lea, of Brighton, Md., writes us: "This has been a fine winter for stock thus far. All they need is plenty to eat, and good shelter in such a winter as this. My Canada sheep seem to be splendid feeders; they are first and last at the trough every time we feed.

I will give you a few figures which you may use in the *Farmer* if you think them worthy of a place: On January 11th I killed a thoroughbred Berkshire sow that did not breed. Her last litter was in May, 1876, when she had eleven pigs I was not fixed to weigh her alive, so the next best was to weigh after she was scalded and scraped clean. She then weighed 367 lbs., and upon being entirely finished and dry made 323 lbs. of pork of first-rate quality. Having but the one hog to kill at the time, I carefully weighed the different parts with the following results:

Hams .....	47½ lbs.	Shoulders.....	46½ lbs.
Sides.....	35½ "	Sausage.....	63 "
Lard.....	46 "	Head with jawl on..	37 "

The above are nothing remarkable in themselves, as they could have been varied much in cutting, but I do claim the loss of 45 lbs. on a hog of that size was very little; she had missed one feed before being killed.

I have just bought the fine pair of oxen from Asa M. Stabler that took the \$50 prize at the State fair for two years, and also the first in the county for two years, and will give you their gross and nett weights, if you would like to have them for your valuable paper, as soon as they are slaughtered." [Please do.—Ed.]



### Work for the Month—February.

Whilst it happens sometimes that we have our coldest weather in this month, there is still accompanying it the pleasant reflection that the coming of spring will not much longer be delayed. This winter has been one of such unusual and uninterrupted severity that it is hardly likely the balance of it will not be interrupted by more thaws and moderate "spells." The stormy days and long evenings give abundant opportunities for maturing plans for the work ahead. A farmer cannot give too much thought to his work,—the trouble is that they too often give too little.

**Manures and Composts.**—The gathering of materials for increasing the supply of these, their amalgamation together, and protection from loss of valuable parts, is a work which can be carried on profitably at almost every season. Few cases exist where such collecting can be protected by covers from the weather, but it is always practicable to locate your manure piles and compost heaps so that their most useful constituents shall not be washed out by every rain that falls. The manure from horse and cow stables, pig pens, &c.; the wastes from house, the dish water and chamber slops, may all be advantageously mixed together in a basin-shaped depression *towards* which, and not *from* which, the liquids will run. Many other substances can be added to such piles, to their increase as well of value as of bulk, such as leaves, old bones, sods, muck, dead animals or fowls, &c.,

Our readers will perhaps grow weary of hearing so often this more than "twice-told tale;" but we are so well satisfied by experience and observation, and sustained by the testimony of others, (see Mr. Hallowell's paper on another page), that we feel constrained to press this very important subject continually upon their attention.

These organic substances thus mixed together and commingled with manure, change not their composition but their form; and from being useless and deleterious, they are fitted to contribute to the alimentation of our cultivated crops.

**Sowing Clover Seed.**—This month is a good time to sow, and if snow is on the ground when it is sown it adds to the regularity and evenness of the operation, and the seed carried into the earth by the sinking of melting snow lodge in the crevices left by the frost and are at once ready to germinate and grow. If it is not convenient to sow early, and you wait till the frost is out of the ground, it should then be lightly harrowed in and rolled. For most soils, from 10 to 12 lbs. per acre is a proper quantity.

As soon as the clover fairly begins to grow, an application of one or two bushels of plaster to the acre will help to establish it and give it a push ahead.

**Orchard Grass.**—The value of this plant, not by any means a new introduction, seems to be but slowly realized by many, though others who test it are readily convinced as to its great merits. It is admirably adapted for sowing with Clover—far better than Timothy is. They bloom

about the same time and the Clover seems to fill up the spaces between the stools of the Orchard grass. The yield is much greater than either will give alone, and late pasture is abundant and lasting.

The tendency to form stools, and the coarseness, to which some object who have not taken the proper means to remedy it, is counteracted by thick sowing and early cutting. A note on another page in answer to an inquiry will give the proper quantities of seed to be sown. Some have recommended in sowing the seed to dampen it and turn it over once or twice, but an experienced hand finds no difficulty in sowing it evenly.

For late and early pasture, resisting drouth, and long continuance, there is no forage plant equalling this. We know sods, productive still, which have not been disturbed for over 20 years.—Of course it needs top-dressings to maintain it.

**Pastures.**—Now, when the teams can often be put on the pasture-lands without danger of poaching, it gives a good chance to apply a mixture of, say 100 or 150 lbs. of bone-dust, 4 or 5 bushels of ashes, and 1 bushel each of salt and plaster, to the acre. If the state of the ground will permit, it is well to harrow; and when this application is made, to roll. Clover seed, if desired, may also then be sown.

**Tobacco.**—Attention should be given to the old crop lying in bulk, that it does not heat as the weather moderates. Before it has a chance to spoil by fermentation, the bundles should be shaken out separately and put into smaller bulks or hung up to dry.

**Tobacco Beds.**—Don't lose any chance to prepare the ground for these. Brush and wood may be gathered, and the surface made ready for burning. See what was said last month, and also on page 44 of this number on the subject.

**Grain Fields** ought to be looked after now. Don't allow stock on them when the ground is wet. See that surface drains are kept clear.

**Tools, Machinery, Wagons, &c.**—Look these over now, and see that repairs are made before they are needed for use.

**Live Stock.**—Now, more than at any other season of the year, every kind of farm animals need especial care. Horses, to prepare them for the work to be done in the spring, ought to be well fed, moderately worked, regularly curried and comfortably bedded. Mares in foal should be kept in good condition, but not allowed to get too fat, whilst inactive. Colts should be kept thriving; a little handling and petting, even of the youngest, is good policy. Cows, both those giving milk and those in calf, should be fed with nutritious and abundant food. Give careful attention to sheep, especially ewes about lambing; and keep your hogs not only growing, but also clean and healthy.

Master Ryland, of the Louisiana State Grange, has a level head on the paper question. He says: "Do not say you cannot afford to take a paper. Don't begin to economise these hard times by stopping your paper. Take my word for it, as the honest opinion of a practical man, that you cannot afford not to take a good paper. It is the best investment you can make of a few dollars."



## The Dairy.

### Jersey Cows for the Dairy.

Messrs. Editors American Farmer :

By way of saying a good word for Jersey cows for the butter dairy, I send you the items of my dairy from January 1 to December 31, 1876. My herd, as near as I can get at it, was about 9½ cows, having sold two in the season, and had one heifer to "come to the pail."

Pounds of butter marketed .....	2,641
For home use say .....	250

Divided by 9½ cows .....	2,891
Average per cow .....	304
Amount for butter sold .....	\$1,122.21
" for home use @40 cents .....	100.00

Cream sold .....	\$1,323.21
Cheese and milk sold .....	27.80
	44.01

Divided by 9½ cows .....	\$1,393.51
Average per cow .....	186.15

Besides calves sold at from \$25 to \$50 each for females and \$10 for males and the milk for hogs.

WM. J. SCHOFIELD.

Montgomery Co., Md., Jan. 8, 1877.

[Since the above was received by us and put in type, we have had the extreme pleasure of inspecting Mr. Schofield's herd and dairy; and to those who may be astonished at the yield here reported, we can say that an examination of the cattle and their management would be an explanation of the remarkable results achieved.—In their stalls, in milk, were nine thoroughbred or high-grade Jerseys, several of which were among the most massive specimens of that race we have ever seen, all bearing most thorough testimony to the care exercised in their treatment. With soft coats, supple, yellowish skins, well-formed and capacious udders, well-rounded barrels, giving space for ample digestive organs, it is no wonder these cows, comfortably stabled and heavily bedded, gave such profitable returns for the clover-hay, corn meal and millstuff which make up their rations.

The cows stand on a platform sloping slightly backwards, and about eight inches higher than the gutter behind them; the pathway also inclines to this gutter, and it descends to the barnyard, giving no chance for any moisture to accumulate in the stable,—the whole (stalls, gutter and floor) being paved with brick set on edge and covered with a coating of cement.

Want of space forbids our giving at present a description of his dairy—one of the most complete, and apparently effective, we have ever seen,—or to refer to some other interesting features of his farming, which we noticed during our recent visit, when we spent very agreeably and profitably most of a morning with Mr. Schofield,

with whom, in addition to those of the dairy, referred to in his communication, very considerable products of a farm, measuring only some 93 acres of tillable land, are wheat, corn, fruit, cider (68 barrels this year) and poultry.

This gentleman is a hearty advocate of the advantages of thoroughbred stock; a believer in rye and orchard grass and roots for cattle; and, of his own capacity and skill, a view of his animals, his farm and his farm-buildings would present as satisfactory testimony as do the practical articles on live stock with which he, from time to time, favors the readers of *The American Farmer*.—Eds. A. F.]

## Horticulture.

### Pennsylvania Fruit-Growers' Society.

The annual meetings of this association, usually held at some point in the State considerably concerned in the production and marketing of fruit, are always made interesting by the attendance of well-known horticulturists who deliver addresses and engage in the discussions which come up. The session of '77 was held at Lancaster, a thriving city, backed by one of the most populous and prosperous agricultural counties in the Union.

The president for the meeting was Mr. Edwin Satterthwaite, a very intelligent and successful nurseryman and fruit-grower, of Montgomery Co., Pa; the secretary, Mr. E. B. Engle, of Lancaster Co.

The chairman of the general fruit committee, Mr. H. M. Engle, presented a report of fruits for 1876. The apple crop was one of the fullest ever known—almost equal to that of 1872—but a tendency to premature ripening, and severe storms at the time of the fall equinox required a great deal of it to be made into cider. More fruit should be dried by the latest improved methods, as the profit is greater than by its conversion into cider, and the demand is practically unlimited.

The York Imperial and Smith's Cider apples still stand unrivalled in almost all parts of the State for certainty in bearing and for productiveness. Of pears, good reliable winter varieties are most wanted.

The peach crop grows in importance in Pennsylvania; the fruit is more sought for in its season than all others combined, and there are thousands of acres south of the Susquehanna and Juniata well suited to its, but as we go north it is precarious as a crop.

Plum culture, notwithstanding the curculio, is on the increase in some sections.

Of grapes, last season, though there was considerable rot, the crop was generally up to the average. The Concord is still the favorite.

Of blackberries, the wild still exceeds the cultivated crop.



Strawberries are more grown than any other small fruit crop. The Wilson is the most grown because best known, but the Charles Downing is gaining in popularity.

Blight was more prevalent last summer than ever before, especially on the pear, though there was considerable on the apple and plum.

#### The Codling Moth.

This destructive pest, its habits and destruction, being under discussion, Mr. Engle said bands of hay, straw or old rags, loosely surrounding the trunk of the tree, gave the larvæ a place to hide in; and by taking them off every two weeks and burning them, many of the insects would be destroyed. This, however, did not apply to the first brood of the season.

Prof. S. S. Rathvon says after the insect in its larvæ (caterpillar) state leaves the apple where it is hatched from the egg, it seeks shelter in the bark and there turns into a pupa (cocoon). From this condition it changes into a moth, again ready to lay more eggs for another brood.

The bands of hay, &c., affords a shelter to the worms, which may be destroyed by burning the bands or by running them through a clothes wringer. He has never caught one of the perfect insects (moth) on a plant. Thinks the swallows catch more of them than the sparrows or any other bird.

Pres't Satterthwaite said he found that two pieces of boards or old shingles nailed against the tree formed a good trap for the ascending larvæ; but nothing seems to diminish their number sufficiently to save the apple crop.

#### Peach Culture.

Mr. W. P. Brinton read a paper on this topic, in which he said that formerly the cultivation of peaches was attended with many risks in Eastern Pennsylvania; but that as much success is gained now, if necessary precaution is used in selecting the sites for orchards, as with any other valuable crop, and it is to be seen whether we cannot make it certain by judicious selection of soil and exposure and careful cultivation.

Only on dry porous soils will the peach do well; and the situation chosen should be as near the top of a hill as possible, but sheltered on the north and west by timber when practicable.

Any soil will do for the peach that will grow corn. Plant your trees 16 by 16 feet, avoiding deep planting. The spaces between the rows may be cultivated for two years in potatoes and corn; after that no cropping should be done. In May and October every tree should be examined for the borer, which should be destroyed by wire and the knife. Cultivate the orchard as long as it is an orchard, but always early in the season. Would not recommend cultivating later than July, as later growth of wood induced by late cultivation will not mature.

Mr. Josiah Hoopes concurred entirely with Mr. Brinton as to the necessity of shallow planting. There was no error against which nursery-men had to contend equal to that of deep planting. Nine-tenths of the failures of trees to grow comes from deep planting. The feeding roots should be kept near the surface to receive air, moisture and heat. The deep penetrating roots are only to sustain the tree. An illustration is seen in raspberries: plant them deep they invariably die; merely stand them on the surface

and throw a little earth around them and they all live.

Mr. Meehan thought cultivating fruit trees at any time was an injury, as it disturbs the roots, and the supply of nutrition is cut off. He had little doubt that trees root-pruned late, which was what late plowing in effect was, would not have nutrition enough to fully mature.

Thinks if this system of frequent cultivation was abandoned, peach-culture would be advanced in Pennsylvania; and does not see why, with the soil undisturbed, the grass cut and left as a mulch, and top-dressings of manure applied, peach trees should not live as long as apple trees.

In regard to the success of the peach in Delaware and Maryland, where frequent cultivations are given, he said, in sandy light soils the roots run deeper and plowing does not hurt as in heavy soils where the feeding roots keep near the surface.

Mr. John I. Carter, of the East Pennsylvania Experimental Farm, said his apples left in grass and treated the same as regards fertilizer with those cultivated did not succeed nearly so well; and Mr. Grover, of Ohio, said he saw on the farm of a Mr. Smith, near Frederick, Md., a peach orchard where some of the trees three years planted were cultivated and some in grass. The cultivated trees were four times as large as the others.

Thos. M. Harvey called attention to the practice of some nurserymen buying up seeds of unhealthy (premature) peaches; and said the yellows are spread by such seed.

Mr. Meehan said the idea that peaches are not affected by disease in the South, he believes, from extended observation, to be a mistaken one. He saw even in Mississippi the remains of trees which evidently had died from yellows.

A number of gentlemen present gave their views on varieties, as profitable to plant in their respective localities.—Mr. Hooper urging the greatest caution in recommendations of this kind, since very short distances, or apparent trivial differences of circumstances, made the kinds suitable in one place entirely unfit for another; and Mr. Meehan added that not only soils, locations and situations but seasons affect the ripening of peaches, especially the early ones, of which, last season, some ripening ordinarily in succession were simultaneous in maturing.

Mr. Satterthwaite gave an account of a small orchard, which he said was so profitable that he did not like to submit the figures.

He allows the trees to branch close down to the ground and trims them off fan-shape, so that he can plow right up to their trunks. The trees are 24 feet apart, and the rows 35 feet. The branches of the trees meet in the rows. In the rows he grows crops of vegetables. Doesn't shorten-in his trees.

Mr. Meehan said pruning under some circumstances is beneficial, under others injurious. For trees in rich ground, growing well, pruning is not desirable, promoting further growth; for sickly trees of low degree of vitality, pruning is a great benefit, and in such a case should consist in cutting out the weak shoots and leaving the strong ones.

The "yellows," he thinks, is caused by parasitic fungi which attack the roots and prevent the



tree receiving proper nutrition. The spores of this fungus enter the system and become a part of the tree, and are thus easily communicated to other buds not only by buds, but even by the knife; and a whole orchard may thus be infected by these minute spores being blown about into the leaves.

The question of the temperature which would prove fatal to peach trees was debated. It was concluded that it varied with the condition of the tree, the development of the buds, the kind of weather, and the acclimation of the trees. It was stated that in Louisiana a temperature of 10° below the freezing point kills them, while it was generally agreed that around Philadelphia they would stand a temperature of from 6 to 10° below zero.

Mr. Meehan said the matter of light had a great deal to do with the destruction of trees.—The less sunlight, the more frost will they endure. During the continuance of a bright light there is not only loss of moisture by freezing, but the evaporation is increased by the light.

Reports of other portions of the proceedings will be found elsewhere in this and in our next No.

An address by Mr. Meehan on the "Fruits of the Centennial" was replete with interest. We have a report of it and may give it in our next.

A discussion on forest culture awakened considerable interest, the preponderance of opinion being against invoking Governmental aid to forest-tree planting.

Mr. Wm. B. Sands, Secretary of the Maryland Horticultural Society, expressed on its behalf a hope that at the National Exhibition of Fruits, which would take place in Baltimore during the meeting of the American Pomological Society, September 12th, the fruit-growers of Pennsylvania would not only be well represented by the usual attendance of delegates, but that the pomological products of the State would be forwarded in such variety as to do credit to a section so advanced in that respect.

He said he had letters from the President and Secretary of the National Society, asking him to begin early to stir up the Horticultural Societies of the Atlantic States, especially, to early and full preparation for the coming season, and as he had the pleasure of being present at this meeting he invited a large representation of the pomologists of Pennsylvania, with their products, assuring them of the hearty welcome they would receive from the Maryland Society, the hosts of the occasion, under whose auspices the exhibition as usual would be held.

On motion of Josiah Hoopes, the invitation was accepted, and a committee appointed consisting of fifteen members to represent the Pennsylvania Fruit-Growers, and to render such assistance as might be necessary in receiving and arranging at Baltimore the Exhibition of the

Fruits of the State, which the General Fruit Committee was required to use strenuous endeavors to make a creditable one, and to take charge of and properly display in one collective exhibit.

The following gentlemen were appointed:

Henry M. Engle, Thomas Meehan, A. S. Shellar, John I. Carter, L. S. Reist, Josiah W. Pyle, W. P. Brinton, Geo. B. Thomas, Jas. Calder, W. S. Bissell, Edwin Satterthwaite, Jno. G. Engle, Geo. H. Small, E. J. Evans.

At the election for officers for 1877, the following named gentlemen were unanimously chosen:

President, Josiah Hoopes; Vice-Presidents, H. M. Engle, Geo. H. Small, John I. Carter; Recording Secretary, E. B. Engle; Corresponding Secretary, W. P. Brinton; Treasurer, Geo. B. Thomas.

#### **The Norfolk, Va., Horticultural and Pomological Society.**

This society held its annual meeting on the 13th January, and re-elected for the eleventh time, notwithstanding his efforts to be released, Mr. G. F. B. Leighton to its presidency. That gentleman has sent us a copy of his annual address, which we give:

*Gentlemen of the Society:* The new year greets us in contrast with one year ago. Then the temperature approached that of Summer, while the corresponding season just passed is the severest since my residence in Virginia. The indications now favor a coming fruit season. The severity of the weather will check the increase of insects which the past mild Winters, together with the scarcity of birds (the victims of unthinking sportsmen) has so multiplied in our midst as to cause much imperfect fruit. The effects of the cold on cabbage and kale is conjectured, the former undoubtedly seriously injured, but the soil will be benefited thereby.

In every visitation of blight among the pear trees of this section I have noticed it commenced after a warm spell in the Spring, followed by cool nights and warm days, and that its spread was most rapid when the temperature between the night and day exceeded thirty-five degrees, and would invite your observation the coming season to this point.

Ex-Mayor Ludlow reports most favorably upon the use of boiled linseed oil upon blighted trees, and has received letters from various sections confirming the value of the application. Should I find cause the coming season to use any preventive of blight, I shall give boiled oil a trial, adding sulphur thereto.

On the subject of wind-breaks I would remark that the strips of woods running east and west, between my main orchard and experimental orchard, varying from forty to eighty feet in height, and having several hundred Bartlett's in close proximity on each side, I have been unable to discover any difference in the earliness of their blooming, yet there was about ten days difference in the maturity of fruit in favor of the south side. The protection of our trees from sudden winds (with which our section is so pregnant) I regard as the greatest value of wind-breaks.



I would remark that recently a move has been made to direct the attention of the producing class to the feasibility of establishing a Bureau of Agriculture, the secretary of which shall be admitted to the cabinet, thereby demonstrating the importance (so long neglected) that the feeders of the world shall have a voice in the management of national affairs. The Agricultural Congress and National Grange seem to urge the matter, and your views on the subject may be invited at our next meeting.

A committee was appointed to take measures for holding Spring and Fall exhibitions in 1877, of fruits, flowers and other horticultural products of Norfolk county.

### Horticultural Societies.

#### Their Acts, Objects and Uses.—No. 3.

*Messrs. Editors American Farmer :*

Having endeavored to show the advantages, objects and uses of horticultural societies, it would seem proper in conclusion to suggest a few other thoughts, and append a rough draught of the rules and regulations generally adopted for the guidance and organization of such societies.

It is believed no other place or means afford so much valuable knowledge to those concerned, or can be obtained so cheaply or so pleasantly as in a well-organized horticultural society or farmers' club. Such being the case, how important, then, that horticulturists and farmers, who are never too old to learn, should come together in systematic form; not only to discuss the best modes of cultivation, but also to learn something about the laws of trade, markets and marketing, labor-saving implements, locations, soils, seeds and varieties, and other important things appertaining to their calling.

The officers of such associations have special opportunities for improvement which country life does not generally afford. Here young farmers, and others, may learn to express valuable thoughts with ease and without embarrassment, and in a clear and forcible manner; either in conversation, or in extemporaneous discussions, or in essay form.

Such familiar associations and interchange and expression of ideas lead to useful thought, reading, careful observation and research, and the comprehensive use of language. These qualifications (so very rare) will enable them, when called upon, to preside at political or any other meetings or assemblies in town or country, with dignity and propriety. And, besides, "a fruit grower (for instance) must be slow indeed, if, during the year, he has not learned *one* new fact to communicate in connection with his art, and, should a hundred persons meet, then each will learn ninety-nine *new facts* for the one produced by himself," and this is one of the great advantages of association.

As every rural community may not have at hand copies of the usual manner of arrangement of these institutions, we have compiled and herewith append a form of organization of a horticultural society or farmers' club. The constitution of which may be as follows:

#### ORGANIZATION OF A FARMERS' CLUB.

*Article 1.* This association shall be styled the—

*Article 2.* Its object shall be to promote the interest of agriculture and its various branches and the welfare of the farmer, and to disseminate such knowledge, practical and scientific, as shall conduce to that end.

*Article 3.* Its officers shall be a President, Vice-President, Secretary and Treasurer, who shall be chosen annually by ballot.

*Article 4.* The President shall preside at all meetings of the club, with power to preserve order and appoint speakers and committees.

*Article 5.* In the absence of the President, all his powers may be exercised by the Vice-President.

*Article 6.* The Secretary shall keep a record of the proceedings of each meeting, which shall be read by him at the opening of the next meeting. He shall preserve all essays read by members, reports of committees, and conduct whatever correspondence is directed by the club, and at each annual meeting present a clear and correct statement of the same.

*Article 7.* The Treasurer shall keep a correct account of all monies received, shall disburse the same as directed by the club, and at each annual meeting present a clear and correct statement of the same.

*Article 8.* There shall be at each meeting a discussion upon a topic previously announced; a member being appointed to read an essay upon, and two other members to commence the discussion as leaders.

*Article 9.* New members may be elected at any regular meeting of the club, by signing the constitution and paying the sum of—

*Article 10.* The annual meeting of the club shall be held on \_\_\_\_\_ of each year, for the election of officers; and all officers elected shall hold their office one year, or until a new election is made.

We will not occupy space in the "*Farmer*" with by-laws and other regulations. An excellent mode of securing topics is by the appointment of a committee in mid-winter, to select and assign them to each member, before its adjournment for the season. In this way, each person has his subject several months before it will come up for discussion, so that it becomes a text, upon which he may observe, reflect and write.

Kewick Depot, Albemarle Co., Va. J. FITZ.

#### Pear Blight Again.

*Messrs. Editors American Farmer :*

As "doctors" continue to "disagree" on this subject, I would like to throw in my mite to the store of facts that will some day solve this dark question.

After reading Prof. Brainard's lecture on this subject, I gave our trees a thorough examination. We have several close evergreen screens, 25 to 30 feet high, running in various directions through our pear orchards. In some places pear trees are planted from 6 feet to 8 feet, on either side of these screens. Some on the south side, receiving the full glare of the sun; others on the north side, nearly constantly shaded; yet I find



no difference in their exemption from blight. Some sections of our orchards are almost surrounded by good protection; others again, on the hill-top, fully exposed to sun and winds. Yet their condition, with respect to blight, is the same. I cannot see that one side of the tree is more affected than the other; certainly the splotches in the "Bark-blight" cases are distributed with no regard to southern or northern sides.

The appearance and disposition of these diseased spots, in this form of blight, is unaccountable under the professor's theory of solar heat. They are clearly defined depressions, distributed indiscriminately over the body and larger limbs. The spots are often of slow growth, and only fatal after a large portion of the bark is affected, or a limb encircled by this diseased bark.

As this form of blight only affects the outer bark or corticle, and apparently kills by stricture, we have resorted to longitudinal cuts through the diseased spots, relieving the stricture, and have found good results from the practice. This form of bark blight certainly differs from the regular fire-blight, which is rapid in its progress, turns the bark to an inky black with an appearance of ruptured cells and exuding sap; while in the bark-blight, the bark assumes a leathery appearance, becomes as hard as seasoned wood, with well-defined edges to the spots, and often grows slowly. Though I have not given these diseases a microscopic investigation, yet I am convinced that the final cause of death is fungoid, but that the prevalence and severity of the attacks of these fungi, depend on the inherent weakness or previous diseased condition of the trees.

JOHN I. CARTER.

*Experimental Farm, West Grove, Pa., Jan. 1877.*

#### Ripening Late Tomatoes—Hardiness of the Eucalyptus.

*Messrs. Editors American Farmer:*

I have on hand some fresh tomatoes, which were gathered before hurt by the frost, and they have continued to ripen despite of the most unusually cold weather that we have just had. Last year I gathered to make pickles all that I thought were entirely too young and green ever to ripen in the house; but as all were not used for pickles the remainder were allowed to be kept, and to my surprise most of them, although frequently not half grown, ripened, without any care whatever having been bestowed upon them.

To get them to ripen after being gathered, they must not be allowed to freeze or be exposed to severe cold. The tomato-plant can stand a pretty severe cold, for I have had water to freeze in the night in a room while all the small tomato-plants in a box in the room were not killed.

I had one *Eucalyptus globulus* about 15 feet high, and quite a number of small ones in a box, all of which were killed by the late cold spell, while small orange-trees in another box alongside were not at all hurt, which proves that the *Eucalyptus globulus* is more tender than the sweet orange. I have one tree of another variety of *Eucalyptus*, name unknown, which does not appear to be injured any more than to have all its leaves killed.

R. CHISOLM.

*Beaufort Co., S. U. Jan. 13, '77.*

#### The Potomac Fruit-Growers.

*Messrs. Editors American Farmer:*

The January meeting was held the 2d. The election of officers was deferred to February, owing to the numerous absentees. The secretary and acting treasurer submitted their annual reports.

Mr. Judson S. Brown read a paper, from which I give you some extracts, on *The Centennial and its Relation to Fruit Culture*:

To the fruit-grower of three-score years, who was able to attend the exposition, no department would appear to have made greater progress during the past century, or have richer offerings to present as the trophies of practical science and persevering industry than those in agricultural and pomological halls.

Applying the law of comparison in regard to fruit culture, how impressive the lesson taught. One hundred years ago fruits were few in number, poor in quality, and limited in variety; even within my own remembrance very little interest was felt either in their culture or improvement. A few small gnarly apples embracing four or five varieties were the sum total of our summer and fall fruit, while the Baldwin, Rhode Island greening, and Roxbury russet, were the only standards for winter use. As for pears, plums, peaches, cherries, grapes, strawberries, &c., none but those growing wild, or with the most indifferent culture, were found at home or market. The principal object in planting an apple orchard was to furnish the material for making a plenty of cider for home consumption, twenty barrels being considered a very moderate supply for yearly consumption, especially with the more thrifty and hard-working farmers.

In the view of many, the nation was on the verge of ruin, from the effects of intemperance, and philanthropists, the clergy, and statesmen, sounded the alarm and counseled total abstinence as the only sure safeguard. In this prohibition wine and cider were included. Under the magic power of these appeals the moral sense and feelings of the whole nation were stirred, and as the result hundreds of fine thrifty orchards were cut down, lest their fruit should again tempt the owner to convert it into cider.

While scores and hundreds lived to regret their rash act and utter folly in thus destroying these beautiful orchards, yet the moral courage displayed in removing the temptation, and the self-imposed sacrifice of a habit in using a beverage so cheap and so common, out of regard to personal safety and the public weal, dignifies both the men and the act, and stamps them as moral heroes of their day and time.

According to official reports of recent date, about six millions of acres of our soil are devoted to the growth of fruit, and the annual product is beyond our means of computation. So great, however, is the apple yield the present year, that in several States they scarcely pay for gathering. While this surplus does not often occur, yet it shows the adaptation of our soil and climate to produce in some part of the country a full supply for the general market.

In answer to the question, "what has the



Centennial done for fruit culture?" the essayist replied:

1st. By the erection of the Pomological Hall, and the consequent recognition of pomology as worthy of a distinct department for display, the commissioners honored themselves and furnished materials for suitable lessons of culture and improvement to the world.

2d. The large and attractive display of fruits brought together from all parts of the country and Canada could not have failed to impress the minds of the eight millions of people who looked upon them with something of the desire, which Mother Eve had, not only to possess, but what is better, to go home and endeavor to raise them.

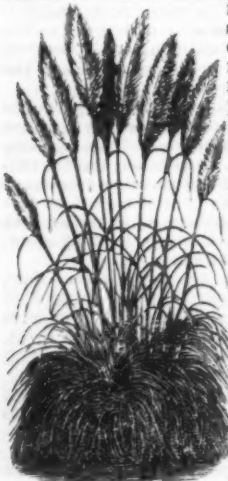
3d. Through the letters and personal narratives of visitors to their friends at home, united with the graphic and extensive communications of correspondents of the press, the public mind has been instructed and the seed sown for a rich and golden harvest.

4th. The friendly greeting and hasty interchange of even a few words on this subject, by the thousands of our more prominent fruit growers who attended the Centennial, touched new chords of sympathy, and added new funds of practical knowledge to their stock, in this important branch of industry.

5th. The meeting of the National Pomological Convention at such a time and place, to discuss the principles and methods belonging both to the scientific and practical features of fruit culture, (in which the representatives of this association bore an honorable part) will no doubt result in scattering far and wide, valuable thoughts and suggestions, quickening the public pulse and improving the public taste, until the desolate and solitary places in our land, where neither fruits nor flowers are now nurtured, shall, under the quickening influences of our Centennial, bud and blossom as the rose. X.

#### An Imposing Plant.

The Pampas Grass (*Gynerium argenteum*) is one of the most ornamental decorations possible



for a lawn,—its tall stems growing from eight to ten or twelve feet high and surrounded by feathery plumes, which are almost of a silvery whiteness. The cut gives an idea of its habit, and is from *Vick*, whose cuts of flowers and plants are always natural and well executed. The Pampas grass is entirely hardy in this and more Southern latitudes, but is sometimes liable to rot during winter from excess of moisture around the roots, which are best protected by covering with leaves, and inverting a barrel or box over all.

#### Blackberry Culture.

Mr. Wm. Parry, the well-known New Jersey nurseryman and fruit-grower, unable to be present, sent a paper to the Pomological meeting at Lancaster on the above-named subject. He said, in effect, that the blackberry is one of the most profitable fruits to grow, not being particular as to soil or locality, and succeeding almost anywhere if an occasional dressing of manure is given. Plantations may be continued from twelve to fifteen years, or even longer; but the best results are from young plants from root cuttings. At the average price which has ruled for fourteen years, an acre should yield \$200 to \$300. The fruit has sold for several years from 12½ to 15 cents per quart. The best soil is a light, moist, sandy loam, which should be underdrained if there is water standing on the surface.

One of his neighbors undertook to have a model blackberry plantation, and bought some land for which he paid \$300 an acre on which to put it. The canes grew enormously, but there was less fruit than on another patch, where the land cost only \$13 per acre. Moral—don't plant on your best land.

He plants in rows 7½ feet apart, the canes 8 feet in the rows. This requires about 1,850 plants to the acre.

It is essential to go over the canes and shorten them during the summer, leaving them 3 to 5 feet high, according to their strength. In winter or spring, shorten in the side shoots.

To insure full crops, he recapitulated: Thin and head back canes, give an occasional dressing of manure, and ship only perfect fruit.

Kinds recommended: Wilson's Early, Kittatinny, Dorchester and New Rochelle.

In his vicinity, an experience of fourteen years showed the average yield to be 2,200 quarts per acre; the average price, 14 cents per quart; and the average net profit, \$200 per acre. The average net profit of 776 acres in strawberries, raspberries and blackberries was \$250 per acre.

Growers of blackberries ought to grow the others also,—as the same pickers, boxes, &c., answer for all.

[It is well to note, in connection with Mr. Parry's figures, that he is very convenient to the Philadelphia market.—Ed.]

Caspar Hiller said, with him the Lawton winter-killed; the Kittatinny rusts; the Wilson doesn't bear any.

H. M. Engle favored cutting the canes away just as soon as they are done fruiting.

Edwin Satterthwaite said, with him the Wilson bears well enough, but it don't grow well, don't sucker. He has to go to New Jersey for his plants. Hopes yet to get a variety which will succeed in Pennsylvania soils, where, it must be admitted, none seems to have a marked success now.

WE ARE GRATIFIED to learn from the report of the Virginia Agricultural and Mechanical College that that institution is in so flourishing a condition; that is, that the number of applicants exceeds the capacity of the college to accommodate, which is a high tribute to its past management. The number of students for the past year was 255.



### Peach-tree Planting on the Eastern Shore. Past, Present and Future.

*Editors American Farmer :*

The peach crop of the Eastern Shore of Maryland has in the last ten years received greater consideration by land-owners than perhaps any other single crop produced by our soil. This attention, in many instances, amounted to unwarrantable enthusiasm. Previous to our late civil war, the profits of peach culture were not such as to create an "epidemic fever" for general and wholesale planting; but following immediately on the close of our national strife, the ideas of our farmers were completely revolutionized: the labor system being entirely different from what it previously was, making other great changes a necessity. In 1865 and '66 a great many peach trees were planted; but in 1867 and '68 the "mania" or "fever" received a check, comparatively little planting being done in those years. In 1870, however, in a form more virulent, the "fever" revived, and prevailed over the entire Eastern Shore, uncontrolled, until 1875.

The unprecedented large crop of peaches that year all over the country served to explode the many vague theories then existing in regard to the supply and demand of this fruit. Alas! the frigid fact, that supply had exceeded demand, was too tardy in development to save all from imprudent expenditure of time and means. During 1874, and even spring of 1875, many had hastily, as though blinded with eagerness, appropriated their best fields to peach orchards. About the years 1870-'1-'2, for one land-owner to approach another for social conversation, and not expend three-fourths of that time in speculative theories regarding peaches, was a breach of rural etiquette. In support of the above picture, and to further illustrate how alarming this peach fever, even in its nature, permit me to digress in the narration of a little circumstance that occurred not ten miles from where I write during the season of marketing the fruit. A grower, who had a nice crop of peaches to handle, and who was not unmindful of his moral obligations, while attending a prayer-meeting of his church, listening on bended knees, with Christian meekness, to an eloquent prayer, was deeply moved; and, wishing to give an oral sanction to the good brother's words who was praying, did so by forcibly exclaiming, *Smock!* This was a bad case, but perhaps staying away from church saved others from similar exposure; hence the result of having too many peach orchards on the Eastern Shore.

Taking the facts as they really exist, I hold that our farmers are in no way censurable for betraying a little vanity as to "what they know about peaches." Surely, if daily contact with the practical details of peach-growing is worth anything in pomological education, we of the Eastern Shore have been blessed with extraordinary opportunity. We tried to learn, and *did* learn. We first learned to *plant*; and too well loved that learning. Orchards were planted without judicious regard for good, salable varieties. The year 1875 revealed unmistakable evidence of that sad truth, electing by an undisputed majority thousands of peach trees to the "brush pile," and thousands more have nomina-

tions for the same office, with but feeble opposition to confront them. Thus the future market will to some extent be rid of inferior peaches. The wild desire, once so prevalent among growers, for quantity regardless of quality, is dead, and, I trust, beyond resurrection; in place of which is accepted the settled fact, that in order to make peach-growing profitable in the future, none but the *very best* varieties of fruit dare be planted,—suitable soils and special culture for certain varieties being duly considered; and, further, that even choice fruit will necessarily have to be handled with greater skill and care by the growers than has formerly been the practice to insure a remunerative price in market. That one thousand trees is the maximum that should be planted on any farm not specially appropriated to fruit-growing; that five hundred trees, well cultivated, manured and cared for, are worth more than five thousand subjected to slipshod culture and stinted in manure. Experience will ultimately force every peach-grower on this shore to acknowledge the above facts. But I have taken too much of your valuable space, Mr. Editor; as an apology for which I have only to remind you that the subject relates to peaches, and that I am very truly an  
EASTERN SHOREMAN.

January 26, 1877.

### The Vineyard.

#### Grapes for a Maryland Vineyard.

*Editors American Farmer :*

In giving my experience with varieties of grapes under cultivation by me, I will mainly mention those which have given most satisfaction.

Among the Iron-clads, the Concord stands at the head as regards health, productiveness, and, if I may judge by the Baltimore markets, profit as a market grape.

Ives' seedling grows equally well, and produces even more pounds of grapes to the vine than the Concord, but I have not been so successful in selling them as the former.

The Marthas is another iron-clad, but the bunches are rather small, and the mass of people want black grapes, considering white grapes not ripe; but Martha will make a far more salable wine than the former, judging from a sample sent me through Mr. Husmann. Two years ago they brought me from 10 to 15 cents per lb.; last year I could hardly get as much for them as for Concord.

Hartford Prolific has proved a little earlier, the only merit I can give it; and the Clinton is a very poor market, but a fair wine-grape.

The Delaware must be accorded the first place in quality; but its habits are so unreliable that I cannot call it a profitable grape. You cannot get the difference always in the price, but it should be in every collection. To be sure of getting perfectly ripe Delawares, not more than one bunch should be left to a branch of young growth.

The Creveling is a very nice-flavored early grape, but it does not set well, and is not very productive, though it is worthy a place in every collection.



Among the Rogers Hybrids, No. 1, or Gæthe, stands at the head with me,—being very productive and with large handsome reddish berries when fully ripe. Nos. 15, 19 and Salem have all proved pretty reliable.

Of the Arnold Hybrids, the Brandt has given me most satisfaction; the bunches are larger on an average than the Delaware, and have ripened well for the last four years. It is very sweet, juicy and vinous, and a good bearer. These characteristics will make it a very good wine-grape, as the French have already found out,—as Mr. Husmann has bought all my cuttings of Brandt and Cornucopia for them. Cornucopia, a handsome, strong grower, with bunch and berries larger than the Clinton, of a very sprightly flavor, has a tendency to throw out young shoots from its base, like its parent the Clinton. Of Othello, Autochon, Canada, I have not seen a perfect bunch, although I have had them seven years in cultivation.

The last grape sent out, the Lady, has, so far as healthfulness and growth are concerned, proved satisfactory. It is as healthy as its parent, the Concord; its wood is somewhat shorter-jointed than its parent, which is a gain.

Elvira, a peculiar but splendid grower, with handsome glossy leaves, and the bunches, as shown by Mr. Husmann in Philadelphia, very compact, resembling in berry and color, the green Gutedel of Germany, and bearing four bunches to a branch.

The Brighton is a good grower, but has mildewed somewhat with me; bunches, as seen on exhibition, very compact, of a purplish red.

White Delaware has grown finely the past season, but mildewed rather more towards the end of the season than I would like to see it.

A Servian native grape, a *Vitis labrusca*, which was found growing wild in the woods of Servia, and of which Mr. Gæthe, a director of one of the pomological societies of Germany, sent me two plants, has proved a rival of the Concord in foliage and growth; it bore a small bunch the past season, but the birds found out its good qualities before I did, although there were plenty of Concord's all around it.

Besides the above, there are some few varieties for wine. A sample of wine of the Herrman, sent to me, proved to be of excellent quality, and should take as well as many of the foreign wines, but the wine dealers seem to have a grudge against American wines. The fault is greatly with ourselves that they don't try to introduce it; they make no difference in price per glass if they pay 75 cents per gallon for Concord, or \$1.50 per gallon for Catawba; the charge is 10 cents per glass all around, and so people will naturally prefer Catawba. If they would sell Concord at 5 cents per glass a great deal more Concord would be consumed. A great many would prefer it to beer, and at the same price would cultivate a taste for American wines. Twenty years ago very few English-speaking people drank lager beer, as they did not like that bitter taste; now they have a taste for it, and drink it as freely as the Germans. The mass of people don't like that strong foxy taste of Concord or Ives, unless you add sugar and water; and this puts me in mind of an honest Eastern Shore farmer, who had rented my neighbor's farm and undertook to

sell his milk to a dealer in Baltimore. The dealer asked the price, and then poured some of the pure stuff into a glass, and holding it up as if he wanted to look through it, said: "My friend, your milk is too thick and chalky; the people are not used to such milk; you will have to put one gallon of water to two of milk, and then I will pay 20 cents per gallon." And so it is with Concord wine—nine out of ten will prefer wine with sugar and a little water to the pure juice of the grape, and grape-growers know that, and will have to do it until the Elvira or Umland fills the bill. JNO. COOK.

Breigau Fruit Farm,

near Carrollton, Baltimore Co., Md.

[Mr. Cook is a thoroughly practical man, and that he grows fine grapes is abundantly shown by the way in which he sweeps so many of the prizes at our horticultural shows. His testimony on their merits is therefore valuable.—Eds. A. F.]

#### Scuppernong Seedlings and Wine.

Messrs. Editors American Farmer:

I have been amusing myself in growing seedlings of the Scuppernong,—a vine that does not grow with you, and therefore is not very interesting to you. I have 15 or 20 which produced fruit last year; about one-half of the color of the parent; the others, black, all differing from the parent and from one another, more or less, in size, flavor, time of ripening, &c., although probably not enough to be worthy of notice. I find our Scuppernong sweeter than it is generally considered. The specific gravity of the juice of the grape from ripe to fully ripe, varying from an equivalent of 15 to 22 per cent. of sugar,—some of the black being the sweetest. I have made a small quantity of very excellent wine from a recipe which required 2 lbs. of sugar to the gallon, but I never used more than 1½ lbs., and I find that 1 lb. per gallon makes just as good wine. I have one or two bottles now over four years old which is quite palatable to an unsophisticated taste. I planted last year over 1,900 seeds, which nearly all grew, and of these about 10 or 11 per cent. had the color of the parent. I have saved about 100 of them and given as many more to neighbors. Over half of them will be barren. JNO. McRAE.

Camden Co., S. C.

#### The Manufacture of Wine.

Messrs. Editors American Farmer:

Immured just now by the severity of the weather, it is a relief to turn from the daily papers and the interminable presidential imbroglio, to the pages of the old *Farmer* and the "wine question;"—from bulldozing to gallizing. In my letter in the December No. I expressed the opinion that the gallized wines with which our country is now filled, were not as good as the true juice formed by nature in the pellicle of the grape; although we are told by the advocates of Gall's method, that "it is impossible to tell which is the natural wine, and which the product of his process."

Your intelligent correspondent from Prince William, Va., seems to think that I am opposed



to what he calls the rational improvement of must. I have no objection to the manufacture of any kind of wine, provided it is offered to the public for just what it really is. Any beverage that can be sold, will be made; and if it is healthy—as galled wine certainly is—no one can object to its manufacture. But your correspondent will agree that it should not be put on the market as genuine wine. Before Gall's method was divulged in this country, the demand for American wines was steadily growing, and good prices were maintained. Notwithstanding the extensive planting of more productive grapes, I think this favorable condition of the wine market would have continued, but for this foreign invention. When Dr. Gall taught every producer of one thousand gallons how to make it measure twenty-five hundred, the public was at once surfeited. The consequence is that there is now no market for American wine. Of course there is a limited local demand in the vicinity of most vineyards; but where is the merchant who will buy a crop? Rarely indeed can a purchaser be found for a single barrel. This over-production of inferior wine has probably been the cause of the failure of some enterprising wine-growers, and has seriously damaged the prospects of all. But the evil will in time correct itself. Producers will find it to their interest to sacrifice quantity to quality, and buyers will learn to discriminate between the good and the bad.

I agree with Mr. Heineker, that but few of our grapes will make a wine strong enough to keep unfortified by sugar or spirit; and I generally use more or less of the former, depending on the quality of the must, as tested by the saccharometer. I also agree that the must of some grapes may be improved for early use, by adding to it a considerable quantity of water. But it is my experience that just in proportion as that is done, the durability of the wine is diminished. However, I would urge no objection to any but the last stage of Gall's process, viz: that for doubling the crop by pouring as much sweetened water over the pomace as there has been true wine pressed from it. Surely that cannot be considered "the rational improvement of must." I should rather term it—"make believe" wine, something like that of the Marchioness in "Master Humphrey's clock," when she dipped orange peel in water and called it fine old Amontillado sherry.

I have been familiar with Gall's method since it was first promulgated, and have practiced it sufficiently to satisfy myself that wines so made are not durable. Others may have succeeded better, but I am inclined to think that the general adoption of it in this country has brought discredit upon the products of our vineyards. A purchaser who has had a barrel of this pomace and pump-water to sour before he could drink it, will be slow to make another investment in native wine. This wine is better than the *vin ordinaire* of Europe; and as it is made at trifling cost, it should be sold at a price that would popularize it with laboring people, who, when needing stimulants, so often resort to whiskey.

Whatever profit may have attended galling heretofore, American wine-growers should recognize the fact that the time has now come when they must elevate the standard of their products;

and those will succeed best who never allow their names to be attached to an inferior article.

I was under the impression that Gall's method was devised to *increase the supply* of wine that had been shortened by the many failures of the grape crop in Germany. If, as Mr. H. suggests, the process was designed mainly to *improve the quality*, then I fear that many of his disciples have perverted the principles of their preceptor.

Very many wine-growers think there is an excess of flavor in our native grapes, which it is necessary to overcome. In my opinion this high flavor constitutes their chief excellence. It gives us a great advantage over foreign growers who have to resort to a variety of flavoring extracts to improve many of their vapid wines. So far from endeavoring to subdue it, we should seek by all means to preserve it, and make it so pronounced in our wines that the drinker of them may tell from the first sip, the particular grapes from which they are made. Our people, it is true, are so habituated to European wines that they often object to the fruity taste of ours. This has led us into the error of trying to change their flavor, and to our imitations of Port, Claret, Sherry, &c. Let us make the best wines we can from our grapes; call them by their true names, and let them stand on their own merits. If we do this I think the time will soon come when their rich natural flavors will be properly esteemed. They are piquant and peculiar, and, fortunately, cannot be easily counterfeited. Where, for example, could the maker of artificial wines find the article with which to flavor his false Catawba?

I have at hand a list of over fifty articles used for flavoring and coloring wines in Europe, none of which are necessary here, unless we persist in following foreign fashions in wine-making, as in other things. It is because so many extraneous substances are employed in making many European wines that they are so easily imitated.

The grapes of California are also said to be very deficient in flavor. This want, I am told, is very noticeable in the Mission (Spanish) grapes, so extensively grown there, and they are now being grafted with better varieties. A writer in the *San Francisco Morning Call* says that if all the Mission vines in the State were so treated, the character of California wines would rise 500 per cent. in the public estimation.

In my last letter to you I stated why I preferred a plain to a hill as a site for a vineyard.—Your correspondent, Mr. Cook, says there are many poor hill-sides in Howard and Baltimore counties that would make splendid vineyards.—I do not doubt it, but unless they are terraced they will become much poorer in the course of cultivation. A very economical way to construct the terraces you will find described, with illustrations, in the *American Farmer* of November, 1858. It is contained in a letter written to me by Mr. Alphonse Chable, and which I thought of sufficient interest to offer to your readers. Mr. Chable, with his uncle, M. Guerin, (a retired French officer,) were then engaged in wine-growing in one of the wild mountain districts of East Tennessee, near the Georgia line. During the war I took occasion to visit their secluded home. Mr. Chable was absent, serving in Bragg's army; and, as his venerable relative remarked,



the vineyard was much neglected. But the terraces on the mountain side, constructed as he describes, were as unbroken as if retained by walls of stone.

I have written very hastily, and merely to express my own views;—not to assert opinions or challenge discussion. Truly yours,

L. GIDDINGS.

Anne Arundel Co., Md.

P. S.—Since writing this letter I have received from Dr. Henkle (member of Congress from this district) a copy of the December Report of the Department of Agriculture, in which you will find some account of the "wine-poisoning in France," (page 487) an evil that is exciting much alarm and indignation in that country. If time permitted I would make some extracts for the benefit of those who prefer French wines to ours. They probably do not know that they are taking, in their Claret, arsenical compounds of grenat, salts of aniline, ammoniacal cochineal, infusions of alum, and other drugs very destructive of health. The Government, aroused by the public outcry, is taking measures to repress these miserable frauds.

L. G.

#### **Treatment of Wines—Grapes in Western Maryland.**

*Editors American Farmer:*

With pleasure I have noticed the attention the vineyard has received from the pens of your able correspondents. It is well to ventilate such questions as Gallizing, Chaptalizing and Petiotizing, from different standpoints, and let the reader do, as the apostle says: "Examine everything and keep the best;" likewise by noting the old Roman adage, "medium tenuere beati" (keep the golden mean.) In perusing the able article of your correspondent "Laborer," in the April number of 1873, I find this sentence: "Of all the imitations, the gallized wines are probably the least injurious to health. Those which are carefully made may indeed contain all the ingredients of pure wine in proper proportion, but they will not combine and cohere as in the natural grape." He gives the reason, by saying: "Because they are not bound by the hand of nature." That is as true as saying as gold, and yet we have to gallize if we want to produce an article fit to drink. American grapes do not contain a sufficient quantity of sugar to produce the necessary quantity of alcohol; and they contain more acids than the wine ought to have. These are stubborn facts. We cannot dispute them, and the vintner who will persist in making wine without Gallizing, will soon be out of pocket, with a full store of vinegar on hand. My experience has taught me that gallizing, to the extent of giving the proper proportions of sugar, acid and water, is unavoidable. But to produce a five-fold quantity of wine out of a given quantity of grapes by means of Petiotizing and Chaptalizing, is a sin, of which no honest vintners should be found guilty. I have read those books, too, to which the esteemed General Giddings alludes, in his December article, containing prescriptions how to make wine without the grape. Leave that to the laborers in the cellar. We laborers in the field will find a market for our genuine

productions, with a discriminating public at all events. I have not had any trouble selling my wines, though I charge nearly double the price for which the manufactured article can be bought in town, and even send quantities as far as Philadelphia and New Orleans—most all for medicinal purposes.

I have tried to produce sufficient sugar in the grape by filling an empty hot-bed partly with straw, and putting the grapes with the bearing branch on it, and by sticking the butt end of this branch in the ground, finally covering it with the sash. After three days sunshine I found the grapes very sweet, almost converted into candy, and the acid pretty nearly gone.—This is a very tedious and expensive process, and not applicable in the wholesale manufacture of wine. Reasonable gallizing is cheaper and leads to the same result, though the wines produced by hot-bedding the grapes were of a surprisingly excellent quality.

Meditating about the reasons why the grapes of the old country don't produce sufficient sugar now, while they used to do it overabundantly in times past, I think we have to seek the cause in the declining vitality of the planet on which we live. The earth gets colder and colder. The internal fires recede more and more from the superficies, while the heat of the earth radiates into the universe. The soil becomes exhausted, because it will not produce vegetation enough to reproduce soil by the decaying plant fibres. The burning sun and the torrential rains of the summer destroy and wash away what soil had formed in centuries past. ["Cursed is the ground for thy sake. In the sweat of thy face shalt thou eat bread."] These climatic changes are even noticeable during the lifetime of a man.

When I was a boy, 50 years ago, parts of Finland were grain-producing countries, (such as oats and rye;) now they are fields of ice. Five years ago I saw a notice, mentioning the fears of the people in the Russian provinces on the Baltic shores, that they will be forced to emigrate, because the crops will not ripen any longer. Iceland was once a flourishing colony; now it is abandoned. Greenland was a green land when discovered; now it is an icy plain. Thus we will be driven gradually to the Equator until the last man shall perish. That will be the fate of our once happy abode—the earth. But to return to our subject, let me give you my experience with different grapes in this locality.

Catawba—positively good; best white wine grape. Northern Muscadine—good; makes a wine equal to Marsala wine. Maxatawny—poor; to be abandoned. Lindley—excellent market grape; bought in preference to all others.—Taylor—not worth mentioning. Iona—good market grape. Diana—ditto; also a good keeper. I kept some over till Easter. Martha, Delaware, Allen's Hybrid, Rebecca and Isabella, will not do well here, and have been abandoned. Salem—most excellent for market and wine. Wilder—good market grape, though subject to speckled rot. Hartford Prolific—earliest good market grape. Concord—good, as everywhere. Cynthia—a gem, not to be surpassed in the manufacture of red wine. Clinton makes good wine with an excess of gallizing.



Like your Virginia correspondent, I am anxiously waiting for the Elvira to bear, but if it comes after the parent, Taylor, I have but little hope for it.

In conclusion, let me say that I believe in a bright future for the wine-making interest in this country. The ravages of the phylloxera in the old country are simply enormous. In not too distant a time the tide will flow backwards, and, instead of importing European wines, we will export our article to the old country in paying quantities and at paying prices.

Truly yours, A. JACKSON.  
Tusculum Vineyard, Frederick County, Md.,  
Jan. 9, 1877.

[Our correspondent is exceptionally fortunate in the location of his vineyard, where, on the slope of the Blue Ridge, the grape finds a congenial home, and the Catawba especially grows luxuriantly, free from disease. A sample of the wine made by him from this variety, which he some months ago submitted to us, fully justifies his claims to its adaptation to the popular taste. —Ed. A. F.]

#### A Wire-Fence Tightener.

Everybody that has a wire fence or trellis knows the trouble from expansion and contraction. *The American Agriculturist* describes and figures a contrivance for the purpose of tightening the wires, which we copy. It says:



WIRE TIGHTENER.

Into a small piece of wood a few inches long, we put two screws about three inches apart, and near to one end one other screw, leaving the heads projecting about a half inch. By placing the wire between the two screws, and turning the piece of wood around, the wire was drawn tight; and by engaging the head of the single screw upon it, the tension was maintained. The operation of the contrivance is shown in figure 1, and the method of arranging the screws or pins appears in figure 2. By using a strong piece of wood two feet long, and strong iron bolts, fastened with nuts upon the back side, this device may be used to tighten fence wires.

#### Fruit Prospect in S. E. Virginia.

A fruit-grower, not far from Norfolk, writes us: "So far, this winter proves unusually severe for this climate, and I predict, as the result, a good fruit crop next season. The current impression is that the Irish potato crop, too, will pay. Seed is high, the old crop short, and the demand for early crop will be immense. Hence a large area in our section will be planted, and mostly from our seed grown as second crop."

#### Floriculture, &c.—February, 1877.

By W. D. BRACKENRIDGE, Florist and Nurseryman,  
Govanstown, Baltimore county, Md.

So soon as the weather moderates, a careful examination of the contents of cold frames should be made, in order to remedy any damage that may have been done by mice; it may also be often found that where frost has penetrated the earth in the pots has been raised above their brims; in such a case the earth should be pressed down by the thumb, so that the plants may receive such water as is necessary for their support.

About the middle of the month a warm, dry, sheltered spot should be selected, on which to place a hot-bed to start annual and perennial flower seeds, and for this purpose a nice gentle heat may be had from a bed two to three feet high, composed of about equal parts of stable manure and oak leaves, well mixed together and beaten down firmly in the making up, observing to have the surface at least one foot broader all round than the box or frame intended to receive the sash—the latter should be put on so soon as the bed is formed; then fill in a layer of light earth, at least eight inches thick, over which keep the sashes tight until such time as the heat is drawn to the surface, when a little air ought to be given in order to let the steam pass off. Seeds sown on such a bed should not be covered deep, as seedsmen often get blamed for selling bad seeds, when the truth is that the failing of seeds coming up is often more the fault of the sower than the vender, by their being deposited too deep underground. Apart from such beds being good for raising seedlings, they are also well adapted for starting Dahlia roots into growth, causing them to be ready subjects for division when sprouted, and these sprouts when about the length of three or more inches root readily in bottom heat, and form the best of all plants for late summer blooms in the open ground. Such beds as I have described are apt to get cooled down after a season of cold weather; when this happens, a lining of stable manure or straw should be placed all around from the ground up to the edge of the sash. Do not let your bed get chilled down, and if you can not trust your sense of feeling by putting in the hand, then use a thermometer, which ought not to indicate more than 70° of heat,—as heat, light and moisture are the three great elements essential to the well-being of rooted plants.

We would now draw the attention of such people who intend to plant out deciduous trees in spring, not to do so before the ground becomes friable,—as no tree planted in wet earth will make much growth the first year, and for one or two years afterwards will show the bad effects of such treatment. All the trees planted last fall that had the earth raised up around the stem, should have this earth leveled down and the surface loosened, so as to permit heat and moisture to penetrate to the roots, and towards the end of the month, as far as these roots extend, the surface should be covered with a coating of leaves, manure or other loose material, to the depth of four inches; this is what gardeners call mulching.

Towards the end of the month the top-dressing of manure or compost that may have been



applied to the lawn in the fall, can now be raked smooth, and after removing all sticks and stones, pass the roller over it during a dry day; and should the grass be thin in places, then sow some blue grass and white cloverseed before rolling.

#### Greenhouse.

That this should be attractive, a vast number of one kind or a great assemblage of species and varieties of plants is not necessary; its beauty should consist more in growing what you have well, whether the number be few or many, and the manner in which they are arranged, so as to secure harmony and show off every plant to advantage. Nothing at this season looks prettier, or is more pleasing to the olfactory, than a few pots of well-grown Hyacinths and double Violets; these, interspersed with some neat-growing Ferns and Selaginellas, would of themselves form an exhibit worthy of admiration. Ferns of themselves have of late years become an indispensable article in greenhouse decoration, and where these succeed, so will also some of our most showy Orchids, and as we are about to pay a visit soon to our friend, Captain Chas. H. Snow, of Harford county, Md., whose collection of the two last-named families is surpassed by none in this country, we therefore promise a list next month of many good things to be seen in his possession, as the wisest among us have still a great deal to learn.

#### Arranging Green-houses and Winter Gardens.

*Messrs. Editors American Farmer :*

I fully concur with Mr. Massey that we keep our green-houses too much crowded, and that a fewer number of plants well grown would give us more satisfaction. But I think the commercial florists are as much to blame for this as we are. New plants, with wonderful descriptions and longer names, have been pouring in upon us for years, and the "cry is still they come;" and the last are always—by the catalogues—so much better than the last year's, that to encourage our friends we purchase a few and stow them away in our already crowded houses. We don't know florally when we are happy, but make good, in this as in other things, the old adage: "Man never is, but always to be, blest."

I never open a new catalogue—and I get a good many in the course of the year,—but I mentally say, "Lead me not into temptation." I received a seed catalogue a few days ago, in which the numbers ran from one to eighteen thousand seven hundred and sixty-three. Of acacias alone there were two hundred and thirty-four varieties, and it is just here that our Horticultural Society, with its Feasts, Brackenridges and Masseys, can do a world of good by letting us hear them, in debate, determine which is best. We had several very good meetings and discussions last year, and I for one enjoyed them.

I wish Mr. Massey had been a little fuller in his article on the arrangement of a bedded green-house. Does he propose that the plants shall remain in the ground the year round? As the house would have a southeast front, (to be useful in winter,) it seems to me it would be a pretty hot place for camellias and ferns, &c.,

when the thermometer was among the nineties. I can hardly keep my camellias cool enough in the summer.

If the large plants were retained in their pots, and then set in the ground, I think the thing might be possible. They could then be placed in proper quarters in summer. I should also imagine that the small plants, like lobelia, &c., being so far from the glass, would get much drawn. I have seen several attempts at bedding plants under glass in this country, but they did not appear to be a success. Probably Mr. Massey is better posted than I am, and has seen what he describes. In Europe winter gardens are very common, but are rarely undertaken unless backed by a goodly collection of plants to replace those going out of bloom. The greatest success of this kind I ever saw was in Germany. It was a span-roofed house, and probably 100 by 20 feet. On a lawn, walks had been dug out like a long trench, and neatly bricked on each side, and the top of the brick work made an edge to the beds. The glass started about a foot from the ground, and 24 or 3 feet from the walks, which went all round, leaving a large bed in the middle, probably 80 by 10. I suppose the trench was 3 feet deep, with the pipes for heat at the bottom, with a grating of iron over them to walk on. There were beds running all the way next to the sides of the house, and in these all the plants were growing plant-dug out, and, as they were near the light, doing finely. Some vines and other plants were also planted out in the large middle bed, but the main dependence for the large middle bed was the hot-house, from whence plants were brought in bloom as needed, and plunged up to their rims, which were covered with some green moss to give the whole a natural appearance.

I do not remember—I probably did not know—the names of the plants used in decorating this house. But one thing I do remember clearly, (and it was over thirty years ago,) that as I sauntered up and down the walk, I thought I had never seen anything so charming in my life, and the North sea, whose storms I expected to encounter in a few days, suffered fearfully in comparison. It may be that my companion, the pretty daughter of the proprietor, who was trying to tell me the names of the flowers in German, may have added to the fascination of the place. I may also mention that the top of the house could all be taken off in a few hours, which was done every summer, and the whole used to bed out plants. CHAS. H. SNOW.

Harford Co., Md., January 22d, 1877.

#### Friends—not Enemies.

Farmers are most frequently unable to distinguish among insects those which are noxious from such as are beneficial, and often destroy friends for enemies, or both together.

For this reason we have thought it worth while to copy from Mr. Riley's last report a cut of an insect discovered near Baltimore by Professor P. R. Ubler, of the Peabody Library, active in destroying the Colorado potato beetle. It is the *Lebia atricentris*, about half the size of the engraved figure. Persons finding it should be careful to protect and not destroy it.





## Chestnut Hill Views—No. 4.

## Treatment of Cyclamens.

Several of our customers both in Baltimore and elsewhere complain that they get no bloom on their bulbs of Cyclamen Persicum, and ask for a reason. It is hard to give advice about the management of plants one has not seen, and of the treatment of which he has no knowledge; but as we have no trouble in getting Cyclamen bulbs to flower well every winter, the best we can do is to tell how we grow them, so that our friends who have failed may judge for themselves when their treatment is wrong.

The Cyclamen, as all know, is grown only from seeds, and a growth of three years is necessary to get a good-sized bulb, though we frequently have a few flowers the second year from seed. But starting with a good bulb in bloom, our practice is to dry off the bulbs as soon as the bloom is past in spring. When dry the pots are placed under the benches of the greenhouse and no further notice taken of them until August. We then shake out the old soil and re-pot, in pots but three-fourths of an inch larger than the bulb all around it. The bulbs are placed *on*, not *in*, the soil; and in watering, especially if the bulbs are large, we are careful to pour the water *around*, not *on*, the bulbs,—as the large bulbs are apt to be a little hollow-crowned, and water remaining there will rot the young buds and cause a failure to bloom. To our fancy, there is nothing more beautiful as a window plant than a large Cyclamen, and nothing easier to cultivate. We have in our collection some old bulbs, on one of which we counted last winter 200 flowers open at once.

## Tuberoses.

A writer in the *Gardener's Monthly* states that the Boston growers of cut flowers prefer the imported Italian tuberose to the American. We do not know what tuberose roots grown in the neighborhood of Boston will do, but we are sure that the bulbs grown in this latitude are far superior to the Italian. The English trade is now entirely supplied with American-grown tuberose. Years ago we grew the Italian roots as everybody else did, but we never could get anywhere near the number of blooms that we now get from home-grown roots,—the descendants of the Italian imported two years ago. In forcing for winter bloom we never could get the Italian roots to afford flowers later than Christmas, while we are to-day (January 23d) cutting tuberose blooms in quantity from home-grown roots started in August last, and which have been blooming since December 10th.

## White Abutilons for Winter Flowers.

Speaking of winter flowers, we notice that the White Abutilon Boule de Nègre is coming into general use for winter forcing. Its pure white flowers and great profusion of bloom make it a particularly desirable plant. It should, however, be forced in pots,—as when planted out on the benches or borders in the greenhouse its growth is entirely too luxuriant, and a smaller bloom is the result. In pots, with the roots somewhat cramped, it is all that can be desired.

W. F. MASSEY.

Chestnut Hill, near Waverly, Md., Jan. 23, 1877.

## Mr. Massey on Verbena Culture.

"Well, friends, I think we must own God Almighty had a hand in making other countries besides our own."  
—Old Play.

*Editors American Farmer :*

These lines, which I learned long ago, came instantly to my mind on reading Mr. Massey's remarks on gardeners who had learned their business "over the water," and whose mental capacity was so limited as to preclude the idea of any expansion.

No doubt, Mr. Editor, the Eastern Shore of Maryland is a good place to be born, but you see it is so small that we could not all enjoy that blessing, and so some of us have to be born in Baltimore, some in New York or Boston, and some "over the water." I know that there are parts of the Eastern Shore where you can see the sun rise out of the Atlantic ocean and set in the waters of the Chesapeake bay, showing conclusively that the Eastern Shore is the centre of the world.

Badinage aside, I cannot imagine, Mr. Editor, how you ever allowed such remarks to appear in your paper,—for no one knows better than yourself that the greatest part of the floral knowledge of this country is in the heads of men born "over the water," or their immediate descendants. There is no need to run over their names. They are too well known and respected to be affected by the remarks of Mr. M. They may feel a little chagrined to find that by printing it you had in a measure endorsed it, and I think on mature reflection you will see it in the same light. I am thankful to say for one that what little I know of floriculture I learned from these gentlemen from over the water. As Mr. M.'s article on verbenas only appeared in your December number, of course I cannot tell what "contemptuous criticism" it has called forth. I have not seen any in print.

The article on verberna culture was well enough in its way, though I do not altogether concur in Mr. M.'s conclusions. I have always supposed the rust on verbenas to be analogous to mildew on roses, and more apt to be produced by some climatic influence than by the quality of the stock, though the latter is of the utmost importance. I also think that the production of new varieties from seed is especially beneficial, as the long-continued cultivation of any plant from cuttings has a tendency to weaken it. Many verbenas that were in vogue 15 years ago have entirely disappeared, and though we may have improved the size and markings, I hardly think they stand the sun as well as they did then. This may only be an idea of my own.

I commenced the cultivation of the verberna about 25 years ago, and I never had a rusty verberna in my life. I have taken up old plants for stock, but always preferred strong well-rooted layers. I then kept them cool and close to the glass, until the days began to lengthen, (say February 1st to 10th.) After that I gave more heat and moisture, and soon got plenty of healthy wood for cuttings.

There are some things, Mr. Editor, that are hard to account for and harder to cure. Why cannot we grow the European grapes outside? Why will peaches grow in one place and entirely fail in another only a few miles distant, and



where a Liebig could find no difference in the soil. Ignorance sometimes stumbles into luck where wise men fail. You are, no doubt, aware that the white Doyenne pear is so subject to cracking that its culture has been almost abandoned in parts of New York, where, in former years, it was raised in great quantities. Some one noticed that a few trees planted near a blacksmith shop always produced beautiful fair fruit. On inquiry the blacksmith said, that he covered the ground with the cinders from his shop. Immediately every one heard of it, and had white Doyenne trees; procured cinders and put around their trees, but alas! the fruit cracked as badly as ever, and the conclusion was come to, that probably the smoke from the smithy had something to do with it, and as it was not convenient to have a smith shop in every orchard the experiments stopped.

There are others besides myself who are ever ready "to get a new idea." We will be glad to catch any that may fall from Mr. Massey's pen of practical use. I hope we will see at our next exhibition some specimens of his artistic culture. I have visited many exhibitions "over the water" in England and Ireland, but I have seen nothing as yet from Mr. Massey or any one on this side the water that would compare in the smallest degree with the plants I saw there.

ONE WHO WAS NOT BORN OVER THE WATER.  
*Balto. Co., Md.*

[Our correspondent assumes too much when he holds us responsible for the opinions of correspondents, to whom we are always willing to give the widest latitude in the expression of their views; and the more especially when they are set forth under their proper signature.

We may add, too, that we think he has given too wide an application to the remarks of Mr. Massey, whom, we have no doubt, would be very far from withholding the credit due to our many intelligent and skillful gardeners who are from "over the water," and whose merits and acquirements he knows. His language appeared to us to be limited in its bearing, and was doubtless not intended to be taken as his reviewer takes it. Mr. Massey is, however, abundantly able to explain for himself.—*Eds. A. F.*]

**PETUNIA HYBRIDA GRANDIFLORA, FIMBRIATA FLORA-PLENO.**—In European floricultural periodicals, this new double-fringed Petunia is noticed as one of the most elegant plants of this tribe that has yet been brought to notice. So far we have not observed it in any of the American catalogues, but doubt not that some of our enterprising florists will soon be in possession of such an invaluable treasure.

#### Bound Volumes of the American Farmer.

We have a few bound volumes for the years 1875 and 1876. Price \$2.00 each at our office, or \$2.25 by mail.

## The Grange.

### What the Grange Accomplishes.

W. M. Allen, of the Missouri State Grange, says:

Has the grange accomplished any good? Has it succeeded in establishing any of the prominent features of the order? Let us see: First, it was claimed and admitted that we farmers were not sociable, that we lived too isolated as a class, whose interests were identical; in fact, it was conceded that we were a little too selfish. Now, is there any change in this? Have those who became worthy members imbibed the principles of sociability, and are they practicing it? Yes, for go where you will, and you will notice that wherever a grange is doing thorough work there is a great change in this; members are far more sociable with each other now than they were previous to the organization; so great is this change in many localities that outside friends frequently speak of it, as members mingle with each other in the grange meetings, and in its various departments this feature of sociability is so cultivated that it becomes a fixed fact.

### Patrons of Husbandry—Financial History.

At the ninth annual session of the National Grange, held in Louisville, Ky., in November and December, 1875, a resolution was adopted instructing the Executive Committee to compile, and report at the tenth annual session, a complete financial history of the Order of Patrons of Husbandry. This work has been done.

The report says that the Secretary of the National Grange has received on account of dispensation fees \$351,810 from 23,454 granges. Also on account of sales of manuals, and other materials needed by subordinate granges, \$12,251.60, making a total of \$364,061. The amount of money was received, disbursed or deposited with the treasurer between the 1st day of January, 1863, and the 30th day of September, 1876, and a balance of only eight dollars and sixty-four cents found against the secretary.

### Patrons of Husbandry—Quarterly Reports.

The Executive Committee of the National Grange have recently met in Louisville, Ky., and published their quarterly report of the examination of the books of the secretary and the treasurer, and from this report we gather the following items:

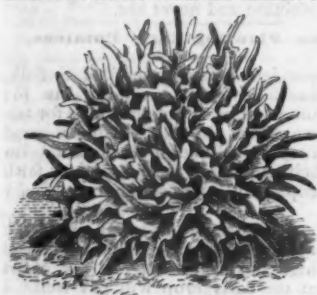
In October there were fourteen dispensations issued for the organization of new granges; in November there were fifteen, and in December eighteen. These dispensations brought seven hundred and five dollars into the treasury of the National Grange. There were about one hundred and fifty dollars received by the secretary from other sources.

During the last quarter there was deposited by the fiscal agency of the National Grange, by the secretary of the National Grange, by the treasurers of the various State Granges, and by the treasurer of the National Grange as interest on the investment by the National Grange in United States bonds, just \$3,705.21 in excess of the expenditures for the quarter. This amount added to the investment previously made by the National Grange in United States bonds, makes the treasury of the National Grange contain about \$50,000.



## A Chapter on Lettuce.

Lettuce is the most important salad plant grown. There are other things prized by some people and in certain countries and at particular seasons, but the Lettuce is popular everywhere and at all times. It is the earliest vegetable forced in hot-houses and hot-beds, for late winter and



CUT-LEAVED LETTUCE.



LEAF.

There is an old kind more finely cut than this, and several persons sent us seed of this variety, thinking it to be the same, but none proved similar, except one package sent by Mrs. W. Welch, of Butterville, Iowa. The old sort is more finely cut, of a darker color, and smaller leaves. It also runs up to seed early, while one of the greatest merits of the kind we introduced is the fact that it keeps in good condition nearly all through the summer, and unless plants are started very early it will give no seed. A friend, of Pawnee City, Nebraska, wrote July 20th: "The Cut-Leaved Lettuce I sowed early, and I can gather a mess of tender Lettuce every day. It surpasses any variety I ever raised, and I have grown almost every variety. All my neighbors want seed from it."

The attention of our friends having been called to the subject, we received during the last winter and spring nearly a hundred packages of Lettuce seed for trial, so we prepared a very long cold-frame, and planted fifty seeds of every variety sent us, and also fifty seeds of every kind we



COS LETTUCE.

advertize, and had one of the most beautiful trial beds we have ever seen. It was a real pleasure, day by day, to watch the development of the plants, and it did not lessen the pleasure to learn that we had some of our best sorts from many different persons, and a dozen or more lots of the same kind. Of the whole we found but two or three kinds unworthy of culture, and not more than that number of varieties of the Cabbage class that we advertize were lacking, showing that the best varieties of Lettuce are pretty well disseminated over the country. What surprised us the most was the fact that among the collection of over ninety varieties there was not one *Cos* variety, and this caused us to realize more than ever the fact that this section of the Lettuce family is not appreciated as it deserves in this country. The Cabbage Lettuce form a round head or heart, and are very tender and buttery when well grown, and the best for forcing for early spring use, and the best of all for very early use is Early Egg, but in the warm weather of the summer the *Cos* varieties are infinitely to be preferred, being cool, crisp and icy, and wonderfully refreshing.

A good, well-grown *Cos* Lettuce that has been placed in ice-water for ten minutes before being used, is a luxury on a hot day that we fear few of our people have enjoyed. The *Cos* varieties have loose, conical heads, as shown in our little engraving.

The best of the story we have yet to tell. Among the collection, to our surprise and pleasure, we found a Lettuce more beautiful than anything of the kind we had ever seen, or ever expected to see,—the leaves of a delicate pale green color, somewhat mottled with white, with the most elegant fringed or filled edges imaginable. It is also tender, of good flavor, and bears the heat and sun remarkably well. When we write this, the first of August, it is showing no disposition to go to seed. We shall try, however, to obtain seed. Our engraving represents quite imperfectly this fine variety. It came to us under the name of *White Curled*, but it is not like any variety we ever saw before, nor is it like the *White Curled* tested with it.

We hope our remarks on this subject will induce everybody who has a garden to grow a few heads of Lettuce. Seed sown in the autumn will give pretty early heads in the spring, but a slight hot-bed will bring them much earlier. A little heat and plenty of air and moisture is what the Lettuce likes. Don't crowd plants too much if you want fine heads. In the open ground sow as early as possible, in a very rich soil. Give plenty of room and use the hoe freely.



LACE-LEAVED LETTUCE.

From Vick's Floral Guide, 1877.



**Early Vegetables for Market Gardeners.**

Mr. Gregory, in his seed catalogue for 1877, makes the following suggestions to those who grow vegetables for shipment North:

For an early Cucumber, earliness, size, symmetry of form and presentable appearance after transportation all considered, you will find nothing superior to the Early White Spine. For an early Tomato, of the early sorts I would recommend Canada Victor (this stands shipping remarkably well), or General Grant. When the hot season comes on there is loss from sun-burning under the extreme heat. At this season two characteristics are wanted in a good tomato: 1st, That it shall shield its fruit under a mass of leaves; and 2d, That the roots shall be as far down in the cool earth as possible, and not near the hot surface. You will find the first desirable trait probably more fully developed in the Mexican Tomato than in any other sort, so my customers in Florida write me. The second desirable characteristic can be got probably with almost any variety by planting the seed where the tomato is to grow, as the roots will then naturally strike down and not spread out near the surface, as they do after suffering the pruning incidental to transplanting.

For an early Pea, very early, having a good sized pod, I recommend, as the result of experience of customers, Extra Early Dan O'Rourke. For an early string Bean, if an early sort with a long, round pod is wanted, I recommend Early Valentine; for a hardy, early variety, I recommend the Fejee Bean.

For an early Watermelon of excellent shipping properties, I recommend Phinney's Early, which is already raised on a large scale to supply the Northern markets.

It may be well for you, before going to the great expense of raising or purchasing the costly sets to grow an Onion crop, to first try on a small scale some of my black onion seed, grown in the extreme north, as some gardeners as far south as Texas have found that with this they could raise onions three or four inches in diameter the first year from the planting.

Of Cabbages, my customers in the South rely on Fottler and Marblehead Mammoth as giving them the largest and hardest heads of any kinds planted. With those who do not succeed with the Drumhead varieties, the Early Winnigstadt is a great favorite. Every gardener of experience knows when earliness is sought for, the farther north the seed he plants is grown the better.

**The Montgomery Co. (Md.) Agr'l Society.**

The following officers have been elected for the current year: President, E. J. Hall; Vice-Presidents—James C. Holland, W. W. Blunt, John H. Gasaway, N. D. Offatt, Asa M. Stabler and John A. Baker; Secretary, John F. Peter; Treasurer, E. B. Prettyman.

A farmer of the county, writing to us, takes occasion to say: We had the annual election of our Agricultural Society last week, and made very few changes in the officers. They are all good, substantial, plain farmers, and no fancy men, and to that I think we owe our prosperity as a society. The total receipts for 1876 were about \$4,000. We have spent over \$1,000 in additions to our beautiful grounds, and are entirely out of debt. I believe we are the only

society in the State that can make the same showing, and hope to continue. I much regret that a more general interest is not taken in the society by persons living in all portions of the county. Two or three districts were not represented at the election and never are.

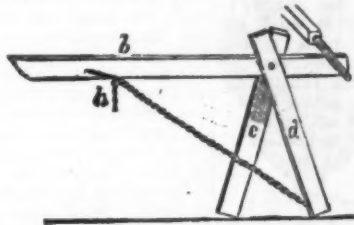
**The Season—Planting Early Potatoes.**

Our correspondent "Nansemond," of Suffolk, Va., writes us as follows, under date of Jan. 15: "Such a winter we have not had here for ten years, and some of our old men predict a good crop and fruit year, although they cannot on scientific principles explain the reasons for faith in favorable crop seasons succeeding severely cold winters.

My people on the farm are, as usual, preparing compost for the crop of early potatoes. Seed potatoes are high, old crop scant, and the belief is current that the early crop will pay well. I propose to plant about 6 barrels as usual, and try to have them well planted with at least 300 cart-loads of compost manure, and 1,200 lbs. guano. We want 600 lbs. per acre of Guanape on 3 brls. seed, which will about plant an acre, when cut to two eyes, 15 inches apart. It is pretty well established that cut to two eyes is the most safe method; but cutting to one eye extending over more surface, requiring more expense in planting, will give larger yield per brl. of seed, and more profit, provided we secure a good stand."

**A Convenient Wagon-Jack.**

A correspondent of the *Prairie Farmer* gives the following sketch and description of a light, cheap and efficient wagon-jack:



To make it, take a strip of oak 10 feet long, 3 inches wide, and 1 inch thick. Saw off the legs *c* and *d* each 2 feet 5 inches long; bore a  $\frac{1}{4}$  inch hole 2 feet 1 inch from the ends. The remaining piece of timber is the lever, in which bore a  $\frac{1}{4}$  inch hole 11 inches from the end; bolt the three pieces together and tack a thick strip of leather on the end of the lever which goes under the axle. Now fasten a straight linked chain to the leg *d*, fasten a hook to the lever at *h*, and we will have a wagon-jack made of 24 square feet of lumber, a 4 foot chain, bolt, and hook. The proportions given will do for an ordinary farm wagon or buggy. By raising the lever and spreading the legs it can be accommodated to axles of different heights. Since the weight rests equally on both legs the vehicle cannot run backward or forward, when the axle is raised, as it can when the weight rests upon one point only. Every farmer has the materials with which to make a machine of this kind, and an hour's work will put them together.



## Poultry Yard.

### Keeping Poultry in Yards.

*Editors of the American Farmer :*

Will you or some of your numerous contributors inform an old subscriber whether chickens and other domestic fowls can be advantageously and profitably kept by penning them up in poultry yards, summer and winter, and if so how these yards and the houses annexed to them can be so arranged as to secure the health and proper laying and hatching of these fowls.

The writer is fond of poultry, and is anxious to keep the different kinds with as little inconvenience as possible.

It is an exceedingly great annoyance to have fowls running at large, defacing the lawns and shrubbery, and yet there are few farmers that would be willing to forego the pleasure and profit of keeping them. If you or any of your patrons can afford a solution to this difficult problem, you will confer a lasting favor on

A LOVER OF A COUNTRY LIFE.

[We submitted the above to Mr. Geo. O. Brown, who will henceforth contribute regularly to this department of the *American Farmer*, and who replies below, as he will to any other inquiries which may be addressed to us as to the management of poultry. Mr. Brown is well-known as the proprietor of the Montvue Poultry Yards, and as the efficient secretary of the Maryland Poultry and Fanciers' Association.]

In answer to your correspondent, I would reply that poultry may be successfully raised in limited or small enclosures. The care of birds thus confined necessitates a little extra attention, which, however, is well repaid by their profit, and the satisfaction of knowing, to one's care and attention is due the pleasure of seeing them thrive and prosper. The houses should be secure and comfortable, and well ventilated from near the top, avoiding all possible causes of dampness. A very good way is to have the foundation wall at least one foot higher than the surrounding surface, and then fill in with dry sandy soil, so that the floor will be always dry. Earth is preferable to boards for the floor for numerous reasons. The fowls will naturally dust to free themselves of vermin; all you need do is to place a board, six inches high, across one corner of the house, fill the space with ashes, and they will take to it as naturally as does a duck to water. But if the same arrangement is made on a board floor, they cannot be coaxed to enjoy the dust bath.

Their yards or runs should be spaded up at least twice a week, in order to be kept sweet. If in a paved yard, should be thoroughly washed as often. Oyster shells crushed *fine* should always be where the fowls can help themselves. Bones in the meat scraps from the table, crushed, they also relish, and they are excellent for them. Green food of some nature is very essential. A loose head of cabbage tied up by the roots, so they can pick it when inclined to do so, is good. Lettuce or radish leaves, and clippings from the lawn mower, may all be turned to good account with them.

Fowls in confinement need exercise and employment of some kind, or they become lazy. A good plan is two or three times a week to throw their grain among a good litter of straw and let them scratch for it. And occasionally, when spading up the yard, spade under oats; this will give them work, and the fresh-sprouted grain is devoured with avidity. We feed mornings, "soft food," i. e. coarse ground corn meal or hominy chop, (the latter preferred) mixed with scalding water, and dry enough to be entirely free from any stickiness; at noon, a very light feed of grain of some kind; at night, corn. In close quarters the food must be varied as much as possible,—wheat, rye, buckwheat, oats, corn and sunflower seed are all good. An occasional feed of boiled vegetables, mixed with two-thirds meal and one-third wheat bran, is excellent, and will increase the number of eggs when other feed fails. Above all other necessities they must have pure, clean fresh water. Nearly all the diseases fowls are heir to is due to foul water, unclean quarters and over-feeding.

Do not try to keep too many birds together,—better success will attend your efforts with twenty well taken care of than forty poorly attended. In another article I will give you a few hints relative to sitting and care of sitting hens.

Geo. O. Brown.

Montvue Poultry Yards, Brooklandville, Md.

### Received.

VICK'S FLORAL GUIDE FOR 1877. Published by James Vick, Rochester, N. Y., at 25 cents a year. Beautifully illustrated, and useful to every grower of flowers and vegetables. Each year Vick seems to surpass his previous efforts. In this number an illustrated Botanical Glossary is a new, interesting and valuable feature.

POTATO PESTS, by Chas. V. Riley, published by the Orange Judd Co., New York. Price 50 cents. This is an illustrated account not only of the Colorado potato-beetle, but of the other insect foes of the potato in North America, with suggestions for their repression and destruction. The name of Mr. Riley is a guarantee of the correctness and thoroughness of the contents. The work is eminently timely and practical.

ANNUAL REGISTER OF RURAL AFFAIRS FOR 1877, published by Luther Tucker & Son, Albany, N. Y. Price 30 cents. This is now the only publication of the kind and contains 150 pages of practical matter, abundantly illustrated. An article on "Practical Ventilation" discusses this important topic in a clear and scientific manner. Elaborate almanac pages are prefixed.

From Messrs. Ellwanger & Barry, Rochester, N. Y.: CATALOGUES OF FRUITS, OF ORNAMENTAL TREES, SHRUBS, &c., of Greenhouse Plants, &c.

From Messrs. Hobson, Hurtado & Co., New York: PERUVIAN GUANO, its qualities; brand under which it is sold, and brief directions for using it. [Extracts hereafter.—*Eds. A. F.*]

From R. H. Allen, New York: "CATALOGUE OF THOROUGH-BRED SHORT-HORN CATTLE."

From M. W. Dunham, Wayne, Ill.: "CATALOGUE OF OAKLAWN STUD OF PERCHERON-NORMAN HORSES."

From Peter Henderson & Co., New York: "CATALOGUE OF EVERYTHING for the Garden."



# The American Farmer.

PUBLISHED ON THE FIRST OF EVERY MONTH

By SAML. SANDS & SON,

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(sign of the Golden Plow.)

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Half Page.....	12.00	25.00	40.00	70.00
One Page.....	20.00	45.00	75.00	130.00

Cover Pages subject to special contract.  
Transient Advertisements payable in advance—all others quarterly.

Advertisements should reach us by the 27th of the month, to secure insertion in the succeeding issue.

FEBRUARY 1, 1877.

## An Appeal to our Friends.

Will not the friends of the *Farmer*, now that the moderating of the season admits of easier communication between friends and neighbors, see to it that their lists of subscribers are made up as fully and as early as possible. Entertaining the hope, as now all seem to do, that we are about entering upon an era of better times, in which, to be genuine and substantial, the agricultural class must be included, we hope that our present subscribers and readers will contribute to make this year one of marked success to the *Farmer*, both in its circulation and in its usefulness as a worker.

## A Prize for the Largest Club to the Farmer.

Mr. J. W. Kerr, of Denton, Md., a nurseryman of experience, a warm friend of the *American Farmer*, and an occasional (and too seldom) contributor to its pages, writes us without any invitation or suggestion from us, to make the following liberal offer, which we accept with pleasure, in the same spirit in which it is tendered:

"I propose to offer as a premium (at my own expense) to the person who sends in the largest list of subscribers to the *American Farmer* by March 25th, 1877, six (6) trees each of the following varieties of American or Chickasaw plums: 6 Wild Goose, 6 Newman, 6 Langsdon, 6 Miner, 6 Newman, 6 De Caradeuc, 6 Mooreman, and to add to the collection, peaches, as follows: 6 Alexander, 4 Park's Cling, 4 Garey's Hold On; and the following grape vines: 2 Champion, 2 Worden's Seedling, 2 Senasqua.

"The publishers to notify the winning party, and he to send me his shipping directions. I will pack good stock and deliver free to the railroad or wharf, and the only expenses to him will be the transportation charges to his place."

We hope this offer of our friend Kerr will stimulate some fruit-lovers to extra exertions to increase their clubs for the *Farmer*.

## The Gunpowder Farmers' Club.

We had the pleasure of attending, on the 27th, the January meeting of this association, at the residence of Dickinson Gorsuch. Its late date prevents our making a full report of the meeting.

One of the most interesting and important features of the usual inspection was the examination of a newly-arrived Dederick Perpetual Hay-press, the joint property of several members of the club, and the first one introduced into the vicinity. It was run by eight horses, and required five men to attend it; and so far has not accomplished the work expected of it, and claimed by the manufacturers as its capacity. It is probable, as it works longer and the machinery runs more smoothly, it will do better. On timing the work there was not found much profit over that of the discarded hand press.

A most agreeable incident in the proceedings in-doors was the presentation of the annual corn prizes of the club. By a stroke of good fortune, this year both fell to the share of the venerable Joseph Bosley,—the member, by the way, who suggested the offering of these prizes by the club. His crop, as heretofore reported in the *Farmer*, was 19 barrels (85 bushels) per acre on the five acres, and about 22 barrels (110 bushels) on the single acre.

The combined prizes, which consisted of a very handsome and heavily-plated silver salver, ice-pitcher, two goblets and slop basin, each bearing an appropriate inscription, the value of the articles being \$45—the first prize being \$25, and the second \$20—were presented by Sam'l M. Price, Chairman of the Corn Committee, in a few well-chosen words, pointing out the usefulness of the gift, and expressing the hope of the club that it would not only serve to remind the recipient of the kind feelings entertained for him by the club, but that it would stimulate others also to improvement of their minds and soils.

Mr. Bosley responded in a feeling manner, and the whole affair was one affording much pleasure to all its witnesses.

LEFT OVER.—Several communications, in type, or received too late for this issue, will appear next month.



**A Model Farming Community.**

As a distinguished instance of general thrift, enterprise and intelligence among a population almost exclusively agricultural, we know of no vicinage in this State comparing with what is sometimes known as the "Quaker settlement" of Sandy Spring, in Montgomery county.

To the earlier settlers it could have offered few advantages, except, perhaps, the low price of the lands. When they began their occupation of the district, the compactly-made roads were not constructed which now give ready access to a fine market; and whatever motives prompted their determination to wrest a living from a soil originally thin and unpromising, that end was attained only by unremitting industry and courageous work.

The introduction of Peruvian guano, which to some localities proved an enchanter's wand that banished sterility and introduced plenty, was a boon to this section; and, applied here more cautiously than in some other places, it was followed by the use of bone and other phosphatic fertilizers which permanently improved the lands. The advantage its judicious employment gained was not lost, and in this is to be found, perhaps, the secret of the wide-spread melioration of the soil.

Another reason of the usual success of these farmers is, that agriculture is the business of their lives. They stick to farming and to their farms. An illustration—only one of several like it—is seen in the case of our good friend William John Thomas—of whose cordial hospitality and courteous attentions we have been lately, as we were once before, the honored recipient—who, born, as was his father before him, within sight of his present dwelling, (a house now considerably over 100 years old, and no more picturesque and quaint without than it is beautiful and bright within), now sits down placidly awaiting an old age which comes with the leisure and competence that early industry has gained and secured—with his sons, not emigrating to subdue Western wilds, all settled about him on farms cut out of the paternal estate, prosperous and prospering—and he surrounded by children, and children's children, that are the crown of old men.

Nor must it be inferred that this is a community where "all work" prevails. The isolation of the farmer's life has here lost its terrors. The foundation laid by the construction of turnpike roads ramifying through all this part of the county, has its natural outcome, from the facilities they afford for business and social inter-

course, in the Farmers' and Dairymen's clubs, Horticultural and Domestic coteries, Granges and Savings Banks, Literary and Musical associations which abound; in the pride and enthusiasm in their calling and their community; in the faith, so evident, that farming is not here considered a boorish pursuit, behind the age.

These people live up to the times; their concern is to find out the improvements and advances made in their business; to read and think; to investigate and experiment. Book-learning and book farming are not at a discount.

From what we have said, it will not surprise our readers to be told that the *American Farmer* circulates freely here, and doubtless many of the old volumes may still be seen on the shelves of the farm-houses, while we little doubt that some of its present readers can recall Cobbett's directions for growing Ruta bagas which appeared in its very first issue. Some valuable contributions to its pages, too, came from the Sandy Spring farmers. One of the earliest, most intelligent and earnest advocates of the use of bones as a fertilizer, was Richard T. Bentley, a gentleman still vigorous and forward in the work of agricultural improvement; and many will remember the able writings of Edward Stabler.

This community, then, is one deserving to be held up as showing what can be accomplished in rural districts by the intelligent direction of the forces at command, by concert and coöperation; and its success is a lesson worth considering by others more favored than it by nature.

**Stoppage of Agricultural Periodicals.**

We regret very much to see the announcement that the publication of the *Rural Carolinian* has been discontinued owing to lack of support. This, we are sorry to say, does not speak well for the farmers, since the character and conduct of the journal merited their hearty encouragement; but the unfortunate condition of the State wherein it was published had much to do with this, as we suppose.

Col. Aiken assumes charge of an agricultural department in the *Charleston Weekly News and Courier*.

This want of appreciation has also led to the suspension of the *Lancaster (Pa.) Farmer*, a paper issued in one of the most wide-awake and populous farming counties of the Union, and edited by Prof. S. S. Rathvon, a man of real science; and where the local patronage alone ought to have maintained so useful a publication.

From Dr. T. P. Jones we have the "ANNUAL REPORT OF THE COMMISSIONER OF AGRICULTURE OF THE STATE OF GEORGIA FOR 1876."



### The American Farmer.

From the many complimentary expressions in letters received at this season of the year, we take the following extracts, as showing the good opinion held of the *Farmer* :

A friend in Catawba Co., N. C., F. L. H., writes : "I will cheerfully endeavor to extend the circulation of the *Farmer*, as I have done for the past five years. For my part, I cannot well get along without it."

Another in Culpeper Co., Va., P. P. N., writes : "I can bear testimony to its ability and worth as an agricultural journal."

One in Fairfax Co., Va., T. R. L., says : "I have endeavored to extend the circulation of the *Farmer* amongst my neighbors and friends, and shall continue to do so,—regarding it as I do of great value to all those who intend to advance the interest of farmers in all the Southern States."

One in Norfolk Co., Va., C. L. U. : "I think as much of the *Farmer* as ever, and believe it to be one of the very best papers in our country, and the paper for our section."

A friend in Jefferson Co., W. Va., says : "Not that I wish to flatter you, but I like the *Farmer*, and think it A. No. 1 in its line."

Another in Anne Arundel Co., Md., A. D., writes : "It will give me the greatest pleasure in trying to induce those whom I come in contact with to subscribe. I consider the benefit much greater on the side of the party who takes the paper, as I consider it one that no intelligent Southern farmer can afford to do without."

W. G. F., Albemarle Co., Va., says : "One word of compliment. I have been a subscriber to the *Farmer*, I suppose, for 30 years, and have got more practical information from it than from any other source whatever."

R. T. B., Montgomery Co., Md., sending us a club more than large enough to entitle him under our rates to a free copy, says : "I will not receive an extra copy for myself, as your paper is too cheap at \$1.00."

J. C. R., Edgecombe, N. C., writes : "I expect to take the *Farmer* the balance of my life, as I have already taken it a large part of the past. Any person who takes it and reads it closely, will find something useful and instructive on almost everything—from planting a vine, and making a pint of wine, up to building a suitable farm residence."

S. T. G., Dorchester Co., Md., writes : "I have been a reader of the *Farmer* for three years, and have been delighted with the paper, and could wish that every farmer in the State would become a subscriber. You are laboring at the main lever which must raise our American people to prosperity. I could never see why a farmer should take a political paper and let pass an agricultural. A single hint in your paper would remunerate most farmers more than years of political reading."

R. J., Jasper Co., Ga., writes us : "I cannot understand how any farmer can afford to do without the old *American Farmer*. I understand that Mr. James Speights says if he was able he would place the *Farmer* in the hands of every young man in the county. As Mr. S. is one of

our best farmers and solid men, the remark was quite a compliment, as coming from so experienced a planter. But the praise is just, and the *Farmer* is worthy of it. I endorse the sentiment of my friend S., and wish every man in the county would subscribe to it."

J. T., St. Mary's Co., Md. : "I can add my testimony to the enjoyment the *American Farmer* furnishes to its many readers."

To our brethren of the press we are under many obligations for their many and kind notices. Space will only admit of an annexing one or two :

Of all the agricultural periodicals in the country, but few contain as much valuable information as the *American Farmer*. In its columns are ably discussed all subjects of interest to farmers.—*Denton (Md.) Journal*.

One of the very best agricultural magazines in the country, which every farmer should have.—*Fayetteville (N. C.) Gazette*.

It is one of the oldest agricultural publications in the U. S., having been established in 1819, and continues up to date to retain its high standard of excellence.—*Gallatin Tennessean*.

### Talbot County Agricultural Society.

The new directors of this association, into which the different agricultural societies of Talbot have been merged, met on Tuesday, qualified, and organized by electing George R. Goldsborough, Esq., President; O. Hammond, Esq., Vice-President; Mr. F. H. Johnston, Treasurer; and Mr. David C. Trimble, Secretary; General E. L. F. Hardcastle and Messrs. H. P. Hopkins and F. C. Goldsborough an Executive Committee.

[With this combination, under such efficient officers, the new society, occupying so favorable a field, ought to be very successful.]

VIRGINIA CATTLE FOR EUROPE.—P. M. S. Bird, of Shenandoah county, Va., shipped to Philadelphia a few days ago fifty cattle which averaged over 1,500 pounds each. They were purchased for the European market and immediately shipped to Liverpool.

### NEW ADVERTISEMENTS.

John Saul.—Plants, Trees, Seed, &c.  
Franklin, Davis & Co.—Surplus Nursery Stock.  
Hawkins & Cornish.—Select Seeds.  
Ellwanger & Barry.—Trees and Plants.  
Jno. Cook.—Plants and Vines.  
Jas. Vick.—Flower and Vegetable Garden.  
H. A. Dreer.—Vegetable and Flower Seeds.  
Joshua Horner, Jr., & Co.—Superphosphate, Bone Dust.  
Z. C. Daniel.—Swine and Poultry.  
Thos. J. Lea.—Berkshires.  
Harrison, Bros. & Co.—Materials for Fertilizers.  
W. H. Chidester.—Agents Wanted.  
W. F. Massey & Co.—Catalogue for 1877.  
Wallace Fish.—Hand Corn Planters.  
W. W. Bortwick & Co.—"A New Year's Gift."  
G. O. Brown.—Pure Bred Poultry, &c.  
N. D. Batterson.—Berry Crates and Baskets.  
Hovey & Co.—Home-grown Seeds.  
B. M. Rhodes & Co.—Orchilla Guano.  
Danner & Newman.—The McGinnis Harrow.



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## Baltimore Markets—January 31.

The quotations given below are Wholesale Prices.

**Breadstuffs.**—Flour—Market quiet but firm, with quotations as follows: Howard Street Super \$5.35@5.75; do. Extra \$5.00@5.50; do. Family \$5.75@5.90; Western Super \$5.25@5.75; do. Extra \$5.00@5.50; do. Family \$5.75@5.90; City Mills Super \$5.35@5.50; do. standard Extra \$5.00@5.50; do. Rio brands do. \$5.00@5.50; fancy brands \$5.25; Fine Flour \$4.50; Rye Flour \$3.75@4.25; Corn Meal, Western \$2.75@3; City Mills \$3.25; Buckwheat Meal \$4 for New York, \$3.75 for Maryland and Pennsylvania 9 100 lbs.

**Wheat.**—Quiet, quotations being as follows: Southern red, common to fair, 145@145 cts.; good to prime, 150@155 cents; amber, 160@165 cents; Pennsylvania, good to prime, 150@155 cents; Western No. 3 red, 145 cents.

**Corn.**—In active demand. We quote Southern yellow 56@56½ cents; do. white 55@55 cents; Western mixed 53 cents.

**Oats.**—Dull. Western mixed 34@37 cents; do. bright 41@43 cents; Southern, fair to good, 35@36 cents; prime 40@43 cents; Pennsylvania 40@43 cents.

**Rye.**—Steady, with quotations for good to prime at 70@72 cents.

**Cotton.**—Firm and more active. We quote Middling 12½@13 cents; Low Middling 12½@12½ cents; Strict Good Ordinary 11½@12 cents; Good Ordinary 11½@11½ cents.

**Hay and Straw.**—Hay quiet and steady. Straw scarce and firm. We quote Cecil Co. at \$18@19; Prime Pennsylvania and Maryland \$16@18; Western \$12@14; mixed \$14@16; Clover \$13@14; Wheat Straw \$10; Oat \$12@13; Rye \$16@17.

**Mill Feed.**—City Mills Brownstiff and Middlings, \$30; Western do. \$18@19.

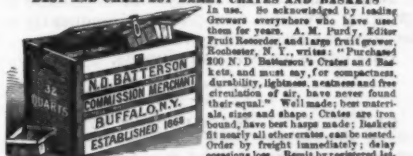
**Provisions.**—Quiet and rather heavy. We quote Bulk Shoulders 7¼@7½ cents; clear-rib Sides 9½@10 cents; Bacon Shoulders 7¼@8 cents; clear-rib Sides 10½ cents; Hams 14½@15½ cents; Lard 12 cents; Mess Pork \$18.50. **Butter.**—New York 30@35 cents; Western tubs 24@28 cents. **Cheese.**—Eastern 13½@15 cents; Western 12½@14½ cents for good to choice. **Eggs.**—35@38 cents for fresh.

**Seeds.**—Clover 15½@16½ cents; Sapping Clover 18 cents ½ lb. Timothy \$2.25; Blue Grass \$2@2.50 ½ bus. Red Top 85 cents; Orchard Grass \$2.25 ½ bus.

**Tobacco.**—Dull, with light receipts and nominal. Maryland frosted \$3@4; common to good sound \$4.50@5; middling to fine \$7.50@11; fancy \$12@17.50.

**Wool.**—Tub-washed 35@40 cents; unwashed 28@30 cent a; fleece-washed 38@33 cents.

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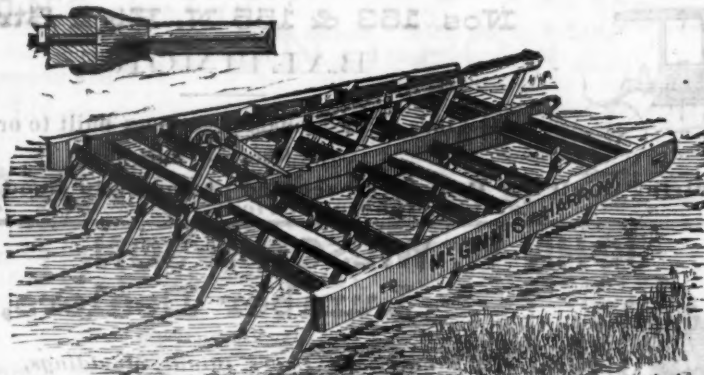
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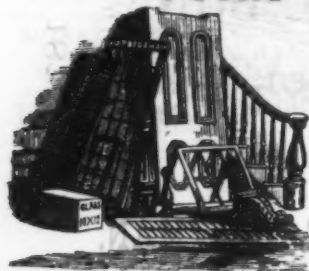
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**CLOTHING AND UNDERWEAR BY LETTER,**  
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**New Vegetables a specialty.**  
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**WILL NOT EXPLODE.**

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Would call attention to their fine collection of **MONUMENTS, TABLETS, &c.; GRAVESTONES FOR CEMETERIES;** also a varied assortment of **MARBLE MANTELS,** and are prepared to execute all kinds of Marble Work for building. mar-ly

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This **GUANO** is the pure raw article, as imported from **Peru** by the undersigned Government Agents, put up in bags of 200 lbs. each, and **WARRANTED** free from lumps and all impurities.

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**NONE GENUINE** unless bearing the following **TRADE MARK**:



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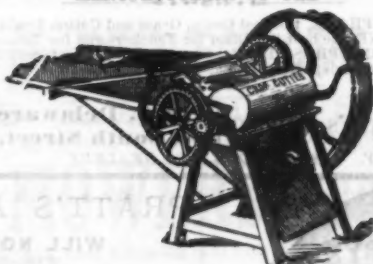
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With a general assortment of Agricultural and Horticultural Implements. A general assortment of Knives and Sections for Mowers and Reapers. Repairing machines at short notice, and on reasonable terms. **FERTILIZERS** of most approved brands; A No. 1 article of unsteamed Ground Bone, Peruvian Guano, Plaster, &c. &c.

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Orders for future deliveries will receive prompt attention. A supply constantly on hand in stores.

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**AYRSHIRE BULL FOR SALE OR EXCHANGE.**—LORD CLYDE, 143 N. A. A. Register, aged 4½ years—a very handsome animal, impressing his marks, color and form very plainly on his get.

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I offer for sale Ives, Concord and Clinton Wine at \$5 per case of one dozen bottles, delivered at Express Office, or on cars or steamboat at Annapolis. Cases of one dozen, assorted to suit purchasers, at the same price. Families, invalids and others may rely on the purity of these Wines.

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
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A large and complete assortment of **PLOWS, HARROWS, CULTIVATORS,**  
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To which we give our special attention, growing and importing our own Seed, we are prepared to fill orders in large or small quantities for **VEGETABLE, FLOWER, HERB and GRASS SEEDS** and **SEED GRAIN.** As we thoroughly test the different varieties, both as to their quality and freshness, before sending out, we are able to guarantee that there will be no disappointment to those who favor us with their orders.  Orders by mail promptly attended to.

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In quantities to suit. Our stock of


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Is large and fine, embracing all the varieties, both new and old, which have proved themselves valuable.

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Offer for sale the following

**FIRST-CLASS  
Superior Machinery and Implements**

Aultman & Taylor's Threshers and Cleaners,

Unquestionably *the* machine of the day.

**Westinghouse Vibrating Thresher & Cleaner**

A well-known machine of good reputation.

**Threshers and Cleaners and Plain Threshers**

Suitable for small Farmers.

**HORSE POWERS,**

Various sizes, Best in Use.

**STEAM ENGINES FOR THRESHING MACHINES,**

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**BICKFORD & HUFFMAN'S GRAIN DRILLS,**

 **Malta Wheel Walking Cultivator,**

An *invaluable* Implement to the Farmer. Pays for itself in one season.

**CUCUMBER PUMPS,**

With solid Cast-Iron **Porcelain-Lined** Cylinder. Very popular wherever introduced.

**SCHUTTLE'S FARM & FREIGHT WAGONS.**

**HILL'S HOG RINGS, RINGERS & TONGS.**

To prevent Hogs from Rooting.

In addition to the above **Specialties**, we keep on hand every variety of useful **Farming Implements and Tools** to be found in a first-class Agricultural Implement House.

**Field and Garden Seeds, Pure Raw Ground Bone and Bone Meal and other Fertilizers.**

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# BUCKEYE MOWER and REAPER,

THE SIMPLEST, BEST MADE AND LIGHTEST DRAFT MACHINE ON THE MARKET.  
ONE-FOURTH OF THE MOWERS AND REAPERS MADE IN AMERICA ARE "BUCKEYE."  
THE "BUCKEYE" IS A FRONT-CUT MACHINE.

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The most popular Thresher with Threshmen and Farmers. It never fails to do good work. A Threshman who buys a Sweepstake is sure of getting work for it, when those having other Threshers cannot.

**ECLIPSE**  
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Best, Cheapest,  
and most  
Economical Engine  
in the Market.

Awarded first Premium at Cincinnati Exposition, 1874; Maryland State Agricultural Society, 1874; Silver Medal at Virginia State Agricultural Society, 1874; North Carolina State Fair, 1878, and others. Thoroughly warranted in every respect, and especially adapted to wants of Threshmen, Sawing Lumber, Farm Work, &c.

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**THE WATT PLOW**

UNEQUALLED IN EVERY ESSENTIAL  
OF STRENGTH, DURABILITY,  
PERFECT WORK,  
LIGHT DRAUGHT,  
FREEDOM FROM  
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MEETS  
ALL THE  
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OF THE  
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FOR CULTIVATION  
OF AN ENTIRE  
CROP.

WE SOLICIT A TRIAL. TRY WATT'S PLOW  
SEND FOR CATALOGUE AND PRICE-LIST.

## Cucumber Wood Pumps

WITH PATENT CAST-IRON CYLINDER,

Warranted not to cut out like the GALVANIZED IRON-LINED CYLINDERS, or scale off as will the PORCELAIN-LINED CYLINDERS.

Every Pump Provided with Patent Anti-Freezing Attachment.

THE BEST IS THE CHEAPEST.

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ORNAMENTAL, FRUIT TREES AND PLANTS.

We invite the attention of PLANTERS and AMATEUR CULTIVATORS to our selection of the following :  
STANDARD and DWARF PEARS.---2, 3 and 4 years old, of the most popular sorts; many of them in a bearing state. APPLES---Standard and Dwarf. CHERRIES---Standard and Dwarf. PEACHES, PLUMS, CRAB APPLES, MULBERRIES, APRICOTS, GRAPEVINES in great variety, together with approved kinds of Small Fruits.

ORNAMENTAL TREES and FLOWERING SHRUBS, EVERGREENS,---of which we have the most extensive variety in Maryland. ROSES, and all other popular bedding-out plants known to the trade. 60,000 ORANGE ORANGE and other Plants suitable for Hedges.

SPECIAL: { 2,000 Aquilegia Chrysantha, } Rocky Mountain Long-Spurred  
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RICH IN PHOSPHATES, AMMONIA AND OTHER ALKALINE SALTS, as per analysis, containing in one ton of 2,000 pounds, say

34 pounds Ammonia,  
39 pounds Potash,  
38 pounds Phosphoric Acid.

Also, LIME, MAGNESIA, and other valuable constituents in smaller quantities. For sale, packed in barrels or bags, \$15 per ton, 2,000 pounds, by

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BUILDING LUMBER AND SHINGLES,  
Lime, Bricks, Sash and Mill Work.







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**SALT CAKE.**

(Sulph Soda.)

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OUR FRIENDS.**

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Having completed extensive improvements and additions to our Works, giving us increased facilities, we are now prepared to execute orders with greater promptness, and deliver goods in much better mechanical condition than heretofore.

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Containing 3 per cent. of Ammonia.

**DISSOLVED SOUTH AMERICAN BONE ASH.**

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A concentrated manure of undoubted excellence for  
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## **Ammoniated Alkaline Phosphate.**

The Patron's Manure—sold on special terms to Grangers.

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Very respectfully,

S. M. RANKIN.

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W. E. McNERY, MASTER.

BUSH RIVER GRANGE, No. 12, SEPT. 17TH, 1875.

RESOLVED, That we express our satisfaction to R. W. L. Rasin & Co. as to the very favorable results of their Fertilizer, (ALKALINE PHOSPHATE) used by this Grange for the past two years.

J. A. SHACKELTON, SECRETARY.

WM. P. DUPOY, MASTER.

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**POTASH SALTS, DISSOLVED BONE PHOSPHATE, &c.**

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